REPORT *of* DIRECTOR GENERAL CHARLES PIEZ

to the

BOARD OF TRUSTEES OF UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION - (Philadelphia)

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UNITED STATES SHIPPING BOARD,
EMERGENCY FLEET CORPORATION,
Philadelphia, Pa., April 26, 1919.

BOARD OF TRUSTEES, UNITED STATES SHIPPING BOARD,
Washington, D. C.

GENTLEMEN: I submit herewith a report on the activities of the Fleet Corporation during my connection with it, together with certain recommendations which my experience with the Fleet Corporation suggests.

The report includes the tables presented in connection with the resolutions of Senator Nelson and Senator Harding before the Senate Committee on Commerce brought up to date.

In spite of the efforts of a large and efficient staff begun in December, 1918, to determine the costs of completed work and appraise the costs of the work still to be finished, it has been impossible to base the results on a completed survey. It will be necessary, therefore, to revise these tables from time to time in the light of changed conditions and facts so that the Board of Trustees may at all times have at its command a close estimate of the total cost of its program. The proper machinery for this exists and it is but necessary to see that it functions properly.

Respectfully submitted.

CHARLES PIEZ,
Director General.

REPORT OF DIRECTOR GENERAL CHARLES PIEZ

TO THE

BOARD OF TRUSTEES OF UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION.

ORGANIZATION.

The United States Shipping Board was created by act of Congress approved September 9, 1916, "for the purpose of encouraging, developing, and creating the Naval Auxiliary, Naval Reserve, and a merchant marine to meet the requirements of the commeree of the United States with its Territories and possessions and with foreign eountries; to regulate carriers by water engaged in the foreign and interstate eommeree of the United States, and for other purposes."

The Shipping Board under the provisions of this act organized the Emergency Fleet Corporation under the laws of the District of Columbia, on April 16, 1917, with a capital stock of $50,000,000, all of which was subscribed for by the United States Shipping Board on behalf of the United States.

By virtue of the authority vested in the President of the United States in the section entitled "Emergency shipping fund" of an act of Congress entitled "An act making appropriations to supply urgent deficieneies in appropriations for the Military and Naval Establishments on aecount of war expenses for the fiscal year ending June 30, 1917, and for other purposes" approved June 15, 1917, the President directed that the United States Shipping Board Emergeney Fleet Corporation should have and exereise all powers and authority vested in him in said section of said act, in so far as applieable to and in furtherance of the construction of vessels, the purchase or requisitioning of vessels in process of construction, whether on the ways or already launehed, or of eontracts for the construction of such vessels and the completion thereof, and all power and authority applicable to and in furtherance of the production, purchase, and requisitioning of materials for ship construction.

The President of the United States also delegated to the United States Shipping Board the exercise of all power and authority vested in him, in the seetion entitled "Emergency shipping fund" of the said act, in so far as applieable to and in furtheranee of the taking over of title or possession by purehase or requisition, of constructed

vessels or parts thereof or charters therein, and the operation, management, and disposition of such vessels and of all other vessels heretofore or hereafter acquired by the United States. The President also granted to the Shipping Board the power to delegate this authority to the Emergency Fleet Corporation or to any other corporation organized by it for such purpose.

I have always considered it unfortunate that the Shipping Board did not avail itself of the opportunity offered by the Executive order of July 11, 1917, and exercise the powers delegated to it by the President of the United States through some other corporation organized by it for the purpose. The fact that two such vast undertakings as the construction of 13,000,000 tons of ships and the operation and direction of this huge fleet, augmented by the German interned ships and the many vessels under charter, were placed in the hands of the same corporation, directed by the same seven trustees, had much to do with the delays and indecision with which our program was, from time to time, affected. The problems involved in the construction of a large fleet, and the problems involved in the profitable employment and management of that fleet, are so widely different and require such wholly different experiences, that it is not within the capacity of any single board to handle both of these complicated sets of problems with equal wisdom and dispatch. Vastly better results could, I am certain, have been attained had these two wholly separate functions been intrusted to two separate corporations and two separate boards of directors, controlled and coordinated through the stock control in the hands of the United States Shipping Board. The determination of the number and character of vessels that should constitute a fleet for the peace-time needs of American commerce should have been made at the time of the armistice so that the vessels under construction at that time might have been modified or canceled, as the needs of the situation determined; but the five members or your board who carried at the same time the responsibilities of the functions of the United States Shipping Board and of the Division of Operations were so wholly overwhelmed that they were unable, amid the pressure of many details, to find the time to devote to the vast and important problem of converting an aggregation of ships into a profitable fleet for the carriage of American foreign trade.

Even at this time, when the Construction Division of the Fleet Corporation is completing its work, I deem it highly advisable that a separation be effected, because only by so doing can the problems of operation and the many questions of policy connected therewith receive the necessary attention for a proper solution.

When Mr. Hurley took office, the by-laws of the Fleet Corporation provided that the officers were to be a president, a vice president,

a treasurer, a secretary, a general manager, and such other officers as the trustees might determine. They further provided that the general manager should have the general oversight and management of the business and affairs of the corporation, and should have power to employ and discharge all clerks, employees and agents, determine their salaries, and prescribe and define their duties. In other words, the titular head of the corporation was assigned merely nominal powers, and the general manager, who is usually an appointed officer, was given full executive control and responsibility, but yet lacked the power to complete contracts, a most important and necessary function for speedy prosecution of the work in those early days of pressure and stress.

The Denman-Goethals controversy arose quite naturally out of this faulty scheme of organization. Mr Hurley improved this condition tremendously when late in November the by-laws were amended so that complete power was concentrated in the president of the corporation, with the authority to delegate it, and the general managership was made an appointive instead of an elective office. But, in spite of this wise and necessary step, the process of decentralization above outlined would have improved the administration of both the constructing and the operating division and would have relieved mightily the pressure on a much overloaded board.

The relationship and functions of the United States Shipping Board and the two divisions of the Fleet Corporation are shown in figure 1.

In the popular mind the Construction Division is considered the Emergency Fleet Corporation, and as it is to the organization of this division that this section will address itself, I will follow the popular misconception and refer to this division as the Fleet Corporation.

The corporation began in reality as a designing and contracting organization, and for the first four months of its existence these two functions overshadowed all others. On August 3, 1917, however, all vessels in American yards, under construction or contract for either domestic or foreign account, were requisitioned, and this step brought with it the control of the construction of 413 vessels, necessitating the addition of a division of construction to the skeleton organization then existing.

But the country's needs for ships could not be satisfied with the output of the shipyards then existing, and substantially every one of the earlier contracts for vessel construction carried with it the obligation of constructing wholly new facilities. Designing vessels and contracting for their construction, which constituted the first phase of the corporation's work, was quite naturally followed by plant and shipyard construction as the second phase. In the meantime, however, the demand for war supplies was making heavy inroads not only on

the available stocks, but on the producing capacity of the industries as well, and the Emergency Fleet Corporation found itself compelled to assume increasing responsibility for furnishing all of the new yards, and many of the old ones, with the necessary raw and finished material.

In the construction of wood steamers, only a few yards, for instance, accepted contracts for the delivery of complete ships, the

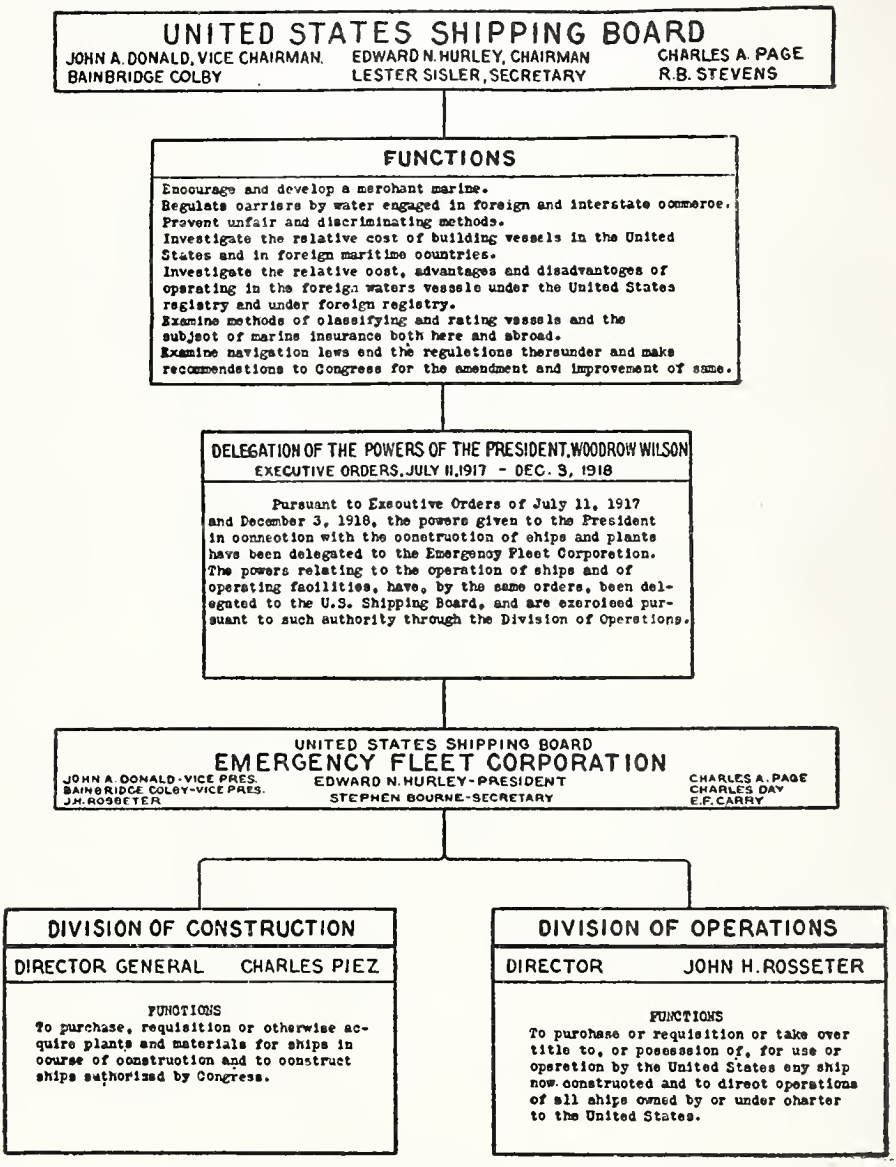


FIGURE 1.

remaining yards undertook the construction of wood hulls only, for which the Fleet Corporation had to provide not only the lumber and fastenings, but the chains, anchors and other hull accessories as well. The corporation had to furnish in addition the boilers, piping, engines, propelling machinery, deck machinery and all other parts of the equipment, and had to construct separate plants at which this machinery

and equipment could be installed on the hulls delivered by the hull contractors.

As the construction program developed it became evident that the two main problems confronting the corporation consisted in securing an adequate supply of labor and an adequate supply of material delivered in proper sequence. On August 1, 1917, the number of men engaged in the shipyards was in the neighborhood of 50,000, and that number, under the drive of our great necessity, was increased sevenfold in almost as many months. The men were brought to the shipyards by patriotic appeals, by the lure of high wages, and by the probability of exemption from the draft. The problems connected with securing and building up this huge army of workers were numerous and complicated, and justified the creation of the Industrial Relations Division, with its various sections. The Division of Industrial Relations became charged not only with responsibility connected with the labor supply, its proper maintenance in health and safety, and the adjustment of minor differences and delinquencies, but it had to accept the burden of occupational draft deferments, the training and stimulation of workers, the proper allocation of the available labor supply, including the elimination of "scamping," and last, but by all odds the most difficult, the control of a proper adherence to the day rates, piece rates, and classification of occupations established by the Shipbuilding Labor Adjustment Board.

But the establishment of a stable and effective labor force at each of the yards involved another problem of considerable magnitude. Unfortunately, the shipyards clustered about the fringes of the highly congested industrial centers of the seaboard and on the Great Lakes, and almost everywhere there were lacking adequate transportation facilities, adequate housing facilities, or both. Ninety-five million dollars were appropriated by Congress to relieve these conditions in the shipyards alone, and the Division of Passenger Transportation and Housing had to be developed in record time to assume charge of this highly important piece of emergency construction.

Securing an adequate supply of material in proper sequence, presented in essence just as many and as serious a set of difficulties as did the supply of labor. Beginning with the simple act of purchasing, the failure to make deliveries called very promptly for the organization of a production and expediting department, and the necessity of bringing the finished material to the completed hull presented a most interesting and difficult task in allocation, dispatching, and transportation. It must be borne in mind that the Fleet Corporation accepted substantially full responsibility for supplying the raw materials, the finished materials, and the machinery for a wooden ship program amounting to $450,000,000, and that, in addition, it was charged with the burden of securing all of the steel and a large part of

the machinery for a steel-ship program at least six times that size. Purchasing was but a minor part of a problem that involved responsibility for delay in supplying material of every character to every one of the 181 yards under contract with the corporation.

It was considered best to concentrate in the hands of a single division the responsibility for buying, and delivering to the yards on time and in proper sequence, all the material the corporation was charged with furnishing, and the functions of purchasing, of tracing and expediting, of allocating and dispatching, of inspecting and of transporting, which in the earlier days of our development were performed by three different departments, were thereupon consolidated under the control of the Supply Division. This division built up effective district organizations in the various industrial centers of the country and maintained its contact with the shipyards through representatives in the offices of the district managers in the shipbuilding districts.

There were then, in reality, two great supply divisions, one undertaking to provide the necessary labor and the other the necessary material, and these two divisions served the four divisions that were charged with the supervision of construction: The Division of Housing and Transportation, the Division of Shipyard Plants, the Division of Steel Ship Construction, and the Division of Wood Ship Construction. Each of these divisions developed its own technical department, excepting that in the case of the two ship construction divisions a single technical department covering both naval architecture and marine engineering, for both steel and wood ships, was created and placed under the administration of the Division of Steel Ship Construction.

For the purpose of controlling the actual construction in the field, the country was originally divided into eleven districts, in each of which there was one or more representatives of each of the construction and service divisions and sections. Later the control of all of the functions in each district was placed in the hands of a district manager, who, as the direct representative of the vice president and general manager, exercised in respect of the districts all of the authority which the latter exercised over the operations of the corporation as a whole. The number of the districts was also reduced from eleven to eight.

This step of decentralization aided materially in the expedition and dispatch of affairs, particularly as the lines of direct communication between the subheads of the district and the corresponding division heads at the home office were preserved.

The various divisions and sections at the home office communicate directly with their appointed representatives, but send carbon copies of all directions and instructions to the district manager, who is given the power to veto any instructions and stop any processes

which, in his judgment, and from his local viewpoint and his first-hand contact with the problems affected, are inimical to the interests of the Fleet Corporation. Failing to convince the division or section at the home office of the soundness of his decision, appeal lies to the Vice President and General Manager.

Time is a most essential factor in the development of any organization, and this is particularly true of those huge organizations that grew out of the necessities of the war. It took time to see and grasp the real needs; time to develop the scheme of the organization; time to pick and test the men to manage affairs; time to develop the proper team spirit, the spirit of discipline and submission to the central controlling authority.

Every division of the Fleet Corporation presented problems exceeding in number and magnitude the problems presented by an industrial or commercial enterprise doing a business of many millions a year, and every division required an organization of which the organization of the corporation was but the pattern. The real difficulty lay, not in choosing the general form of the organization, but in finding men who had not only the necessary experience and capacity for the job, but the proper temperament to blend quickly and harmoniously with the rest for the smooth and effective accomplishment of the task. Since the selection of the men presented the chief difficulty, we had no hesitancy in building our organization around the mental capacities and the temperamental peculiarities of the men we had available. Chart "E" should not therefore be studied with the idea that it represents the last word in theoretical relationship and perfection. I have never been impressed with the value of a system chart unless I knew the men whose functions it depicted, for a chart without the personnel is like an equation with none but unknown quantities. The organization of the Fleet Corporation has been in a state of flux from the very first and intentionally so, because it gave an opportunity for those quick changes and rearrangements which emergency conditions constantly demand. To-day, with the pressure over, some of the functions have disappeared, others have been consolidated, and a new management adjusted to normal conditions is resulting.

The organization through the last twelve months of its career has been subjected to the constant critical study of an organization and methods section, attached to the staff of the Vice President in Charge of Administration, and this section has suggested administrative changes, has assisted in the definition of duties and responsibilities of the operating units, and has pointed out duplications of work and inconsistencies and overlaps in jurisdiction. It has made a study of the duties and responsibilities of different positions, and has developed a plan for bringing about uniformity in classification and salaries of

employees, which is now in operation. Instructions given by the general officers of the corporation are issued in the form of orders, which may be either general, special, or technical; and these, for the purpose of securing consistency and harmony with orders of a similar character previously issued, are cleared through the organization and methods section. The necessity of such a constant critical study of an organization which extraordinary pressure is expanding with great speed is apparent, and its value in reducing such a hastily gathered organization to a well-balanced effective unit is open to no doubt.

Coming now to a more detailed description of the organization as it existed before the signing of the armistice, complete power was delegated by the Board of Trustees to the Director General, who during Mr. Schwab's régime retained control of the policy of the corporation, but placed control of the management in the hands of the Vice President and General Manager. As an immediate relief to this official, the general duties and activities were divided into two main groups, one covering ship production, administered by the Vice President and General Manager, with a vice president and assistant general manager in more immediate charge, and the other covering administration, with a vice president in charge. The various sections and divisions, with their relationship and lines of authority, are so clearly indicated by the chart as to require no further comment, except that the position of the Industrial Relations Division, under the administration group of activities, is due to a desire to more nearly balance the work of the two groups. The Industrial Relations Division serves the production divisions, but the relationship between the vice presidents was so close and harmonious that the rather strained position of this division has resulted in neither embarrassment nor friction.

PERSONNEL.

The Emergency Fleet Corporation began its existence on April 16, 1917, with six employees, and this number increased rapidly to 1,533 on December 31 of the same year. Of this number, 835 were in the home office and 698 in the field organization.

The early work of the corporation was of necessity that of preparation. A few contracts were let before the passage of the urgent deficiency act approved June 15, 1917. That act authorized the expenditure of $750,000,000 and appropriated $400,000,000 thereof. The power to requisition vessels in process of construction, vested by this act in the President of the United States and delegated by him through Executive order of July 11, 1917, to the Emergency Fleet Corporation, brought the organization into the control of the construction of 431 steel vessels, aggregating 3,056,008 dead-weight tons. These vessels were under contract in 35 different yards and

required the immediate organization of a field force to supervise the construction, audit the accounts, and act as the tie between the shipyards and the home organization. The country, for the purpose of this supervision, was divided into 10 districts, later increased to eleven, each in charge of a district officer, and each district office manned by representatives of the various divisions of the home office.

The act of placing of contracts began really after the issuing of the requisitioning order of August 3, 1917, and the organization, under the impetus of these new contracts and the necessity of constructing many new facilities for the purpose of carrying them out, grew rapidly after that date. The home office force reached its maximum number of 4,438 in September, 1918, and the field force, its maximum number of 3,852 in January, 1919. The home office force receded rapidly after the signing of the armistice and on April 15, the roster numbered 2,409, a reduction of 2,029 employees. The stiffening up of the field inspection, the many changes made in vessels under construction to improve them for peace-time needs, and the fact that our shipbuilding activities, in spite of reduced hours and cancellations, developed greater intensity with increasing experience, made it impossible to reduce the field force in harmony with the reduction of the home office organization. The field force numbered about 3,540 at the time of the armistice and dropped to 3,310 immediately after, but it rose again in the succeeding months, reaching its maximum of 3,852 in January, 1919, from which point it is slowly receding.

Exhibit No. 1 (printed on pages 43 to 45) shows the number of home office employees in the several divisions and sections and indicates changes, consolidations, and final eliminations of these divisions and sections. Exhibit No. 2 (facing page 46) shows diagrammatically the increase and recession in the total number of employees and in the number engaged in the home office and field work.

SHIPYARDS.

At the outbreak of the war in April, 1917, there were in the United States 37 shipyards with 162 shipways capable of building steel ships and 24 yards with 72 shipways capable of constructing wooden ships of 3,500 dead-weight tons and over. On March 31, 1919, there were in existence—

	Ways.
67 steel-ship yards with	420
4 steel-tug yards with	21
77 wood-ship yards and 6 concrete-ship yards with a total of	357
18 wooden-tug yards with	70
9 wooden-barge yards with	23

making a total of 181 yards with 891 shipways.

The new yards were largely construeted through the finaneial aid extended by the Emergeney Fleet Corporation, either in the shape of advanee payments on aecount of eontraet or in the shape of aetual loans secured by mortgages on the yards. The details of the investments in the several yards will be found in the report of Admiral Rousseau attaehed hereto.

Out of the total number of yards created 21 were eonstrueted wholly at the expense of the United States and most of these are being operated under an ageney form of contraet. In spite of the eritieism that has been urged against this form of contract I think operations under it have been more satisfactory than have those pursued under a lump-sum form in yards that have been built largely out of the first funds advaneed on ship construetion. In most of the latter cases the expeetations of profit have not been realized, the eontract payments being often insufficient to eover the aetual eost of ship construetion. Additional funds had to be advaneed from time to time, and though seeured by mortgage, the Fleet Corporation has not been as free to take summary aetion as in the ease of the yards wholly the property of the Fleet Corporation. It was in reeognition of this faet that the yards for eoncrete-ship construction and the Carolina yard were eonstrueted wholly with Government funds on Government-owned land.

Careful inventories of the property and equipment in all Government yards as well as of the construction and equipment supplied through Government funds in privately owned yards have been made, and eopies of these inventories are on file both at the yards and at the home offiee.

Statements in detail are contained in Admiral Rousseau's report appended hereto.

CONTROL OF MATERIALS.

The two great problems whieh confronted the Fleet Corporation were those of securing an adequate supply of materials delivered in proper sequenee and at the right time and of seeuring and training an adequate supply of labor. Mueh eritieism, particularly on the part of the older and more experieneed shipbuilders, has been direeted against the Fleet Corporation, beeause it extended its control over eertain activities of the yards whieh under normal times the yards were fully eompetent to discharge properly and efficiently. When it is remembered, however, that of the total number of 181 yards intrusted with the earrying out of the Fleet Corporation's program, only 61 were in existenee when we entered the war with Germany, and that of these a material proportion were new and still without experieneed management, the neeessity of centralizing many of the functions ordinarily intrusted to individual management beeomes apparent. The administration early reeognized that some form of cen-

tralized control should be exercised over all industries, and this control was finally placed in the hands of the War Industries Board, which in effect became the general staff of the industries of the country.

The Fleet Corporation, even before the creation of the War Industries Board, and before Mr. Hurley came into office, had embarked upon the policy of undertaking the purchasing for all-wood ship construction and for many of the steel contracts that were let. It is true that it took time to develop a purchasing department which would not only place orders, but also see to it that the orders were shipped in time and in proper sequence; but the difficulties encountered constitute no argument against centralized control of the placement of orders and the allocation of materials, for this control was absolutely necessary to prevent the baneful effects, both in the matter of costs and deliveries, which unregulated competition among the shipbuilders for a limited supply of material was bound to result in.

The Fleet Corporation had not only to expand the capacity of many industries furnishing material for vessels, but had also to cr ate wholly new industries for the manufacture of certain necessary parts. This could not have been done had the placing of orders remained in the hands of the shipyards. Neither could close cooperation with the War Industries Board have been maintained had the Fleet Corporation not insisted on gradually extending its control of all purchases in all of the shipyards of the country.

I discovered shortly after I came with the Fleet Corporation that the Purchasing Division did not follow up promised deliveries as aggressively as it should, and the Production Division was organized in February, 1918, with Mr. Tuttle at the head, to keep in touch with the shops producing material for the shipyards, and to assist these shops in every possible way in meeting their promises as to deliveries. Production managers were placed in each of the large industrial centers, charged with the responsibility of following up the orders placed in their districts, and the activities and effectiveness of these district production offices reflected itself in very prompt increases in output. Shops supplying boilers and engines for wooden ships that had suffered months of delay through changes in design quickened their output under the aid given them by the production managers, and by June, 1918, produced engines and boilers in excess of needs.

In July of 1918 the Production Division, the Purchasing Division, and the Transportation Division were consolidated into the Supply Division, which by simplified methods quickly reduced the 1,200 employees engaged in the three divisions to a little over half that number.

I am convinced that the assumption of directive control of the procurement of materials and supplies for the shipyards was not only justified, under the circumstances, but resulted in a great acceleration

of the program, in spite of the fact that in individual cases seemingly unjustifiable delays resulted; and I regret, not that we assumed control, but that we did not assume effective control earlier.

LABOR POLICY.

The Emergency Fleet Corporation was among the very few Government agencies that had a consistent labor policy, and this was rendered possible by the establishment of the so-called Macy Board in the fall of 1917. It has been charged that the whole effect of this board was to raise wages to excessive heights, and reiterations of these charges are made at even this late date, in spite of the now generally accepted fact that the Macy Board was the sole instrument that saved the shipyards from constantly increasing demands for wage increases and constant interruptions to the course of production. As in the case of the control of materials, individual yards may have been able to have maintained their forces at lower rates than those specified by the board, but when it is remembered that the pay of mechanics averaged $4 per day in the leading shipyards of the country in the summer of 1917, and that this rate has now been raised to $6.40 per day, an advance of 60 per cent, it will be recognized that the advances made by the Macy Board in day rates were only sufficient to keep those rates abreast of the rising cost of living. In many of the congested industrial sections of the country the rates were lower than the men could have obtained had the law of supply and demand been given unlimited and unregulated sway.

The Macy Board, at the suggestion of the officers of the Fleet Corporation, decided in their Philadelphia award, made in the spring of 1918, to give ship production the stimulus of properly established piece rates, and for this purpose called together a committee consisting of shipbuilders and representatives of the shipyard workers, who prepared a schedule of piece rates covering certain processes in the shipyards, which was accepted by the board. Piece rates were largely based on those prevailing in the Delaware River district, and if the rates were excessive or out of line, it was due to wrong determinations by the oldest and most experienced shipbuilders in the Delaware district, and not to an error of judgment on the part of the Macy Board.

The remarks concerning excessive earnings by mechanics, attributed to Mr. Homer Ferguson at the meeting of the National Foreign Trade Council in Chicago, on April 25, should not be considered as representative of average conditions, or average rates. Excessive and long-continued overtime, especially on repair work where the practice has been to pay double time for all overtime, has resulted, of course, in earnings that look wholly out of line with those prevailing in the average industry, but to insure a fair judgment of the work done by

the Macy Board, a comparison of the hourly rates alone should be made. The establishment of the basic eight-hour day in the shipyards was but a reflection of the general tendency in this direction and but carried out the oft-expressed policy on the part of Congress. In spite of the fact that the Macy rates were higher than those prevailing in the nonwar industries, very few shipyards adhered closely to them. Many, in fact, indulged continually in the practice of luring men away from another yard by the offer of higher rates. This practice became so common, especially in the Northwest, that the men, recognizing their economic strength, put forth a demand for a dollar an hour, although at that time the Macy scale was 72½ cents per hour. The Fleet Corporation recognized the menace of such a situation, and several months before the armistice felt obliged to put representatives of its Industrial Service Section in each of the yards and to place control of the rates wholly in the hands of these representatives.

It is unwise at any time to criticize a general policy because of a single experience or incident, and I am certain that the critics of the labor policy of the Emergency Fleet Corporation lacked broad contact with all of the problems and a broad perspective of all of the conditions. I believe most whole-heartedly that an industry under ordinary conditions will thrive best under the least Government interference, and yet, in spite of this strong conviction, I am satisfied that both in the matter of material and labor supply the Emergency Fleet Corporation erred in not assuming more complete and positive control earlier in its course.

As soon as the armistice was signed the officials of the Fleet Corporation decided to relinquish control of those functions that are more properly and more effectively vested in the yard management, and the decreasing roster of the Supply Division and the Industrial Relations Division indicates this change in policy. The latter numbered 358 employees in August, 1918, and 22 in March, and the Supply Division numbered 925 employees in July and 258 in March.

The Macy Board went out of existence on March 31, 1919, and I have encouraged both shipbuilders and the representatives of the Metal Trades Department of the American Federation of Labor to get together for the purpose of creating an instrument which would serve the purpose of adjudicating any differences between the men and the yards during the completion of the Government's program. It was our suggestion that district boards should be created on which only the men and the shipyards would have representation. These agreements are now under consideration and I hope will shortly be signed.

The report of Mr. R. W. Leatherbee, Manager of the Industrial Relations Division, is appended hereto for further details.

PROGRAM OF SHIP CONSTRUCTION AND POLICY OF CANCELLATION.

It was understood throughout my connection with the Fleet Corporation, and this same understanding was held by Mr. Schwab during his incumbency, that the function of the executives of the Fleet Corporation was to build the number and character of vessels which the Board of Trustees and the United States Shipping Board would determine. A report defining policy in connection with new ship construction was submitted by me to the Board of Trustees on December 31, 1917, and I appointed at that time a committee consisting of Admiral Bowles, Capt. Radford, and Mr. Bender to submit a report on a ship-construction program, which was done on January 24, 1918. While no specific action on this program was recorded, it did have the tacit, if not the expressed, approval of your board. This report indicated that your executives well recognized the fact that vessels of the Great Lakes type were too small to be useful in any great quantity, yet, under the conditions that prevailed, the great experience and producing capacity of the Great Lakes yards had to be taken advantage of.

The report also suggested the limitation of the construction of vessels of 5,000 tons and my own report recommended a curtailment of wood-ship construction and a limitation of steel-ship construction to an amount that could be completed in 1919.

The great German drive against Paris and the Channel ports in March, 1918, the continued success of the submarine in the early months of that year, and the decision of the War Department to increase very largely the number of men to be sent to France, resulted in demands on the Fleet Corporation for tonnage that could only be met by a considerable expansion of existing facilities.

The program for new construction submitted to the Appropriations Committee of Congress on April 30, 1918, had the approval of the board before it was submitted to the committee and, except in the case of specific instructions, such for instance as those given by the chairman to Mr. Schwab on August 14 for the construction of a considerable number of barges and tugs, no great departures from this proposed program were made.

All through this period and well into the fall of last year, the United States Shipping Board stood for the creation of a large and dominant American merchant marine with a tonnage considerably in excess of the then program, but the position of the Shipping Board was apparently not based on a careful study of American needs nor on any plan of profitably employing so large a fleet. Our commitments had grown so dangerously close to the limit of our authorizations and the cost of these commitments had grown so

materially under the wage and freight advances granted that we decided not to make any more commitments and not to enter into any more contracts unless Congress would approve of our request for authorizations to cover additional construction. No new commitments or new contracts were made after September 26 except in those cases where they were necessary to carry out work already begun. Early in October, recognizing the nearness of peace, we canceled the contract for construction of the Alameda yard and for the construction of 10 troop ships at that yard, amounting to about $60,000,000, and we entered at the same time on a wholesale cancellation of barges and tugs for the construction of which specific orders had been given by the Chairman to Mr. Schwab on August 14, 1918.

When the armistice came no policy or plan had been evolved to convert the aggregation of vessels left on our hands through war needs and activities into a real and effective American merchant marine to serve the needs of American foreign commerce. At this very important juncture, the Chairman of the Board was called to Europe, where he joined Mr. Raymond Stevens, another commissioner, who had been abroad on the Shipping Board's business for many months. At that time I called the attention of the Board of Trustees repeatedly to the fact that it was essential to decide:

First. How large a fleet was to be constructed.

Second. Under what plan and by what methods profitable employment was to be found for the fleet so created.

Third. What steps were to be taken to perpetuate shipbuilding as one of the large and successful American industries.

The Board of Trustees recognized, particularly in view of industrial conditions as they obtained at that time, that a wise policy of cancellation could only be arrived at through the determination of these three fundamental questions.

A committee was appointed, in the Chairman's absence, consisting of leading shippers, to survey the fleet under construction and indicate to us which of the vessels it was desirable to cancel or to sell, from the operating standpoint.

In the meantime it was found necessary, because of the difficulty in getting further appropriations, to indulge in wholesale cancellations to bring the total costs of our commitments well within the limit of our authorizations and appropriations.

All of the steps taken were taken under the direction and by the approval of the board, and specific instructions were issued by the board from time to time covering the general principles that should guide us in the cancellation of wooden ships, ocean and harbor tugs, and barges. In considering what course to pursue in the matter of cancellations and producing a better balanced fleet, the Board of Trustees was hampered by the fact that it was denied the right to

sell off even the less desirable steel vessels to foreign buyers, even though at that time an active demand appeared to exist for vessels of even the size built in the Great Lakes yards.

Several months ago, as a result of very thorough discussion, the Board of Trustees authorized me to cancel all contracts for vessels the keels for which could not be laid before July 1, 1919, provided that the loss sustained through such cancellations would not be excessive. The cancellations in steel vessels alone, effected under the direction of the Board, amount to 2,200,000 tons.

As this matter is of considerable importance, I am attaching hereto as a part of this report copy of report submitted by the shippers' committee, copy of my letter to your Board dated March 12, and copy of letter written to the Chairman on this same subject dated April 14.

I am very glad that an effort is being made at this time to make an estimate of what the requirements of American foreign commerce will be in the matter of number, type, and tonnage of ships, because this determination lies absolutely at the bottom of a wise policy in respect of cancellations.

A report attributed to the Chairman has been current in the newspapers during the past day or two that additional cancellations of about 2,000,000 tons of steel shipping will be made in order to bring the construction program in line with an ideally balanced fleet for the needs of American commerce. I desire to state in this connection my very firm conviction that no radical policy of additional cancellations should be engaged in until the policy which prevents the Board of Trustees from selling surplus vessels to foreign purchasers and prevents American shipyards from entering into contracts with foreign purchasers has been reconsidered. An ideally balanced fleet is not the only factor that should weigh in determining the amount of tonnage to cancel. We have built up at great expense a remarkable industry, and if we find it impossible to successfully operate the fleet which the exigencies of war places in our hands, we should at least take care that the industry itself shall survive in its full vigor.

I agree wholly with Mr. Hurley's policy that the size of our fleet shall be determined by the tonnage which will carry 50 per cent of our outbound commerce, but I am wholly at variance with a policy of cancellation that does not carry with it the right on the part of the shipbuilders to secure contracts for ships in the market of the world. The reduction in shipping by reason of the submarine sinkings, natural causes and the greater marine risks due to the war has been so great that vessels will continue to be in strong demand for months to come. I am certain that the market is sufficient to take over a large proportion of our small vessels and all of the vessels of larger size that we will have on our hands in excess of the needs

which Mr. Hurley may determine. According to the best advices at our command, cargo vessels are selling at somewhere between $130 and $150 per dead weight ton in English yards for delivery within the next 18 months. Quotations that are lower than this usually cover the sale of old vessels that the owners are anxious to replace by more modern ones. If the cost of cargo vessels to be completed from now on averages $195 per ton, it should be the policy of the board not to make any cancellations in which the cost exceeds $65 per ton. Most of our surplus vessels will be finished within ten months and by reason of prompt delivery ought to command a better price than the English figure.

Certainly consideration for the shipbuilders and for the many men engaged in the industry should prompt the Government to sell its surplus of ships rather than cancel them.

There is a mistaken idea that work on our entire program can be suspended for some months and then reinstated when costs have gone down. Those who hold to this idea seem to forget that on October 15, 1918, our total program, including deliveries, vessels under construction and under commitment, consisted of 3,155 ships of 17,276,318 dead weight tons, and that contracts for all the materials for this tonnage had been ordered at war prices months before; that after canceling all vessels that could be canceled without excessive cost, the net program to-day, with cancellations and suspensions deducted, amounts to 2,439 ships of 13,898,106 dead weight tons, a reduction of 716 vessels of 3,378,212 dead weight tons; that we are still proceeding with cancellations of those vessels that can be canceled at a cost less than the difference between the cost of the Fleet Corporation and the assumed current market price, and that there seems to be no possibility for any large additional cancellations unless financial sacrifices, considerably larger than the above referred to difference, are made. Thus far 723 vessels of 4,196,856 tons have been delivered; 500 vessels of 2,287,111 tons are in the wet basins and represent an average state of completion of fully 85 per cent; 650 more vessels of a total of 3,478,273 tons are on the ways and represent an average completion of more than 50 per cent, taking material, deliveries, and work into account.

Ships on the program for which keels had not yet been laid on April 15 number 566 of 3,935,866 dead weight tons. I think it is possible, within the limit of $65 per dead weight ton, to cancel an additional 500,000 tons of this amount.

But about 40 per cent of the vessels for which keels have not yet been laid and 40 per cent of the tonnage which these vessels represent are contained in the three fabricating yards at the American International Shipbuilding Corporation, the Merchants Shipbuilding Corporation, and the Submarine Boat Corporation. In all of these

cases contracts were placed a year or more ago, and the material and its fabrication have proceeded so far that cancellation will be very expensive. It has been argued in respect of some of these vessels that they could, with profit to the Government, be taken out of the hands of our agents and transferred to some private yards for completion, but this suggestion is born of ignorance of the fact that the Government has paid heavily for the education of both the management and the men in these yards, in the first vessels produced, and that all of these yards are running with increasing efficiency and at improved speed so that they will compare favorably, in cost and character of output, so far as work still to be done is concerned, with many of the older yards which are in shape to undertake the completion of these ships.

A very considerable part of the remaining tonnage of vessels still to be laid down is under contract with yards that were built during the war and to which the Government has advanced for yard construction a considerable part of the contract price to be repaid out of the profits on the vessels. No changes or cancellations can be made in these yards without excessive cost to the corporation.

It has been our policy to close out the yards that are not showing efficiency, but to give the others an opportunity to work out their indebtedness by completion of the contract. The loss growing out of the pursuit of such a policy will, I am certain, be considerably less than would be the loss were ruthless cancellations indulged in. It is essential for the board, therefore, before pronouncing in favor of such a scheme of cancellation as Mr. Hurley is at present reported to favor, to investigate very carefully the situation in each yard involved and determine the cost of canceling, bearing in mind the salvage that could be effected were sale permitted.

Great and permanent injuries can be done to one of our vital industries and great loss brought to the United States Government, if cancellations are not made in the light of full knowledge of existing conditions in the yards and with full power to sell to foreign purchasers, if selling is more advantageous. *The right to contract with foreign buyers should not be extended until our own surplus is substantially disposed of.* Decision should therefore be made promptly so that the yards will not suffer a shutdown in the interim.

It has cost the Nation at least $300,000,000 to teach 300,000 men and 120 new managements how to build ships, and with even temporary financial aid American shippers can be taught to operate profitably even the large fleet which we will have on our hands. At any rate, if we haven't the capacity and initiative to become a large shipping nation, let us at least remain a large shipbuilding nation now that our tuition has been paid for.

STATE OF SHIPBUILDING PROGRAM.

By properly weighting the work thus far performed in the shipyards it is possible to express it in terms of finished tonnage. For this purpose the vessels delivered will be rated 100 per cent; the vessels in the wet basins 85 per cent; the vessels on the ways 40 per cent; and the vessels for which keels are still to be laid down at 10 per cent.

On April 26, 1918, the condition was as follows:

	Tons.	Rating.	Equivalent tonnage.
		Per cent.	
Deliveries	4,239,706	100	4,239,706
In wet basin	2,287,111	85	1,944,044
On the ways	3,478,273	40	1,391,309
Keels not yet laid	3,935,866	10	393,587
			7,968,646

The total program with deductions for cancellations and suspensions made is 13,898,106 dead-weight tonnage, so that the state of completion measured by work performed in the shipyards is 58 per cent. As measured by material delivered or ready to deliver, as well as by the work done in the yards, the program is about 75 per cent complete.

READJUSTMENT OF CONTRACTS.

Contracts for ship construction let by the Emergency Fleet Corporation fall into three general classes: Lump-sum contracts, cost plus a fixed-fee contracts, and agency contracts. Most of the contracts placed for wood ships were of the first class and all of them involved assent to apply a large portion of the first payment to yard and plant construction. By reason of the many changes made and delays caused by the Fleet Corporation, and because everything had to be sacrificed to the crying need for ships, the corporation was compelled during the emergency to provide the necessary funds to complete the vessels and found it advisable in making adjustments of the many seemingly indeterminable claims to put most of the contractors on a cost plus a definite fee basis.

The cost of wood hulls built on the Atlantic and Gulf coasts exceeded the contract price by from 25 to 90 per cent, part of this being due to cost of changes and advances in wages. On the Pacific coast the increases over contract prices varied from 15 to 30 per cent. The cost of vessels on the Atlantic coast was adversely affected by the very material changes in the design of the bottom of the Ferris hulls made in October, 1917. This change was not necessary in west coast vessels because larger timber was there available and the shipbuilders were not, therefore, subject to the months of delay which this change and the inability to get prompt delivery of timber involved.

In only a very few exceptional cases has any money been made in the lump-sum wood yards, and the recent order to stop all work substantially as it stands makes it impossible to look for reductions.

In the case of the new steel yards, the situation is that most of them will not make sufficient money on their first contracts to completely discharge their obligations to the Fleet Corporation. In these cases, as in the case of the wood yards, a substantial part of the first payment was applied to yard construction and additional advances secured by mortgage had to be made. Among the new yards, the Carolina yard and the five concrete yards are Government-owned agency yards and can therefore be dismissed from consideration. The progress in the Southwestern Shipbuilding Yard, in the yard of the Union Construction Co., the Seattle North Pacific Co., and the Pacific Coast Shipbuilding Co., indicates that the amount advanced by the Fleet Corporation will be paid for out of the profits.

The remainder, consisting of the following yards: Atlantic Corporation, Bayles Shipyards (Inc.), Downey Shipbuilding Corporation, Groton Iron Works, Pusey & Jones, Virginia Shipbuilding Corporation, Doullut & Williams (Inc.), Merrill-Stevens Shipbuilding Corporation, Pensacola Shipbuilding Co., and G. M. Standifer Corporation vary in their financial dependency on the Fleet Corporation and the efficiency of their management, the details being presented in Exhibit 4 and in the reports on these yards presented by Mr. Cox and Admiral Rousseau. In none of these cases can a readjustment of contract, involving a reduction of price, be effected, because the prices received are hardly sufficient to pay the cost of acquiring skill in shipbuilding and to pay a reasonable amortization on yard investment. Were further contracts from the Fleet Corporation forthcoming or were these yards free to seek orders abroad, a fair percentage of them would become efficient and self-sustaining.

Among the older yards there is an opportunity for readjusting contracts so that the Government may secure the benefits of any economies growing out of changed conditions, and I have already had several conferences with shipbuilders looking toward this end. Had no cancellations in these yards been made, substantial reductions could have been secured in a number of the yards holding lump-sum contracts. The Skinner & Eddy yard, for instance, offered to make a reduction of $32 per dead-weight ton, that is, from $191 per ton to $159, rather than have 25 vessels canceled. The revised contract with the American Shipbuilding Company of Detroit will effect a saving of over $20,000,000. Other offers of reductions have been submitted as alternatives to cancellations.

In the case of yards that are under cost-plus-fee contracts, an endeavor has been made to place a reasonable limit on the amount earned under the "participation in savings" clause of the contract.

Some of our cost-plus-fee contracts are for straight fees only, others provide for a share in the savings over the base price mentioned, and one or two provide for a limit in the participation. *It is proper that steps should be taken to impose such a limit on all contracts not now providing it.*

The advantage of the cost plus a fee contract is that the Fleet Corporation secures the benefits of any savings effected through changed conditions, while the participation clause provides the proper incentive to keep the costs within reasonable bounds. But the participation clause and the bonuses provided for prompt delivery while seemingly right in theory, involve the Fleet Corporation in considerable expense. Changes in design in all of this new work have of necessity to be made when the advantages are evident, yet every change requires a clerical and technical staff to appraise its true influence on the base price and therefore on the possible earnings of the contractor. It is on account of the vary large savings possible at Hog Island that I suggested a change in these terms of the contract adjusting claims for cancellations. I recommend a similar change in the contract with the Merchant Shipbuilding Corporation.

PROCEDURE IN CANCELLATIONS.

The discussion of the procedure in cancellations occupied the attention of your Board for several weeks. Mr. Sherman L. Whipple, who was then General Counsel of the Board, consulted the Attorney General on the subject and reported that the latter was of the opinion that the Fleet Corporation should make every effort to adjust claims without having recourse to litigation. He referred to the helplessness of the Department of Justice in defending the Government in such litigation, months after the organization of the Fleet Corporation had been disbanded. The Attorney General stated further that the position of the Government with regard to these claims is not a favorable one, inasmuch as the proofs, in almost every case, are in the hands of the claimants and the Government is unable to ascertain them in advance or to anticipate the startling propositions that may be advanced by its opponents.

Further details on this subject are contained in the minutes of November 19, 1918, November 20, 1918, and December 4, 1918.

The resolution under which your executives have been acting in respect of cancellations and adjustments was adopted on January 15, and is as follows:

Whereas the declaration of an armistice and the termination of active hostilities has made it desirable or imperative that certain contracts entered into by this corporation for the construction of vessels of all kinds, of shipyard and plant facilities, and of housing and passenger transportation, should be canceled, when such can-

cellations can be done upon terms creating less loss than in case the contracts were carried out.

It is resolved, That the cancellations shall be effected and adjustment of damages be made according to the following rules and procedure:

1. The general classes of contracts or obligations which are to be canceled shall be determined by the Board of Trustees, but specific contracts or obligations within the general definition and authorization of the Board of Trustees may be made by the Director General or the General Manager.

2. The Director General and the General Manager are hereby instructed and authorized to enter into negotiations for the settlement of claims arising out of cancellations of contracts ordered or authorized by the board. As an incident of settlement with the main contractor, they are authorized to negotiate and make settlement with subcontractors.

The Director General or the General Manager is authorized to make settlements with claimants which do not involve a net loss exceeding $25,000, and to make and pay the agreed amount of the settlement without antecedent authority. Settlements or adjustments where a net loss to the Government in any single claim would exceed $25,000 may be made by the Director General or the General Manager, with the concurrence of one other person to be nominated by the general manager, and approved by the board of trustees.

A weekly record of settlements which are made shall be kept and submitted to the board for their consideration.

Claims made by corporations, partnerships, or individuals whose officials are members of or any of them are in any way connected with the Shipping Board or Fleet Corporation shall be settled only by specific authority of the board.

3. It is expected that all matters which in the judgment of the Director General or General Manager involve principles of policy or lines of general procedure, or substantial deviation from the lines of general authority conferred, will be submitted to the board for their consideration.

4. In general, no allowance shall be made for prospective profits unless specifically provided for under the cancellation clause of any particular contract. The Director General and General Manager are, however, authorized, in their judgment and discretion when necessary, to make an allowance on account of prospective profits not exceeding 10 per cent of the contractor's cost to the date of cancellation of the contract.

5. In any case where the Director General or General Manager would recommend the cancellation of the contract, they are authorized in the name of the corporation to request the contractor to suspend work under the contract in whole or in part until further notice, and to request the contractor to make a duly verified statement showing in detail the following information as to the progress of the work in the execution of the contract:

(A) Raw materials on hand, plus inward handling charges plus such portion of overhead as is directly applicable.

(B) *Partly finished products on hand.*—Cost of raw material and labor plus such portion of overhead as is directly applicable.

(C) *Finished products on hand.*—Contract price less freight charges if the contract or order specifies delivery at point other than factory.

(D) *Special facilities.*—Cost of facilities specially provided and paid for by the contractor for the performance of the contract, the necessity for which was contemplated at the time the bargain was made and the cost of which facilities deduct their fair value at the time the contract or order is terminated, and state such portion of the remainder as is represented by the ratio of the uncompleted portion of the whole contract or order.

(E) *Commitments.*—The contractor's commitments to suppliers, subcontractors, and others for contributing materials or work to be determined, in so far as applicable, in the same manner as indicated in A, B, C, and D.

(F) Such other information as the Fleet Corporation may direct.

If the contractor claims additional compensation by reason of any other item or items he may add such item or items, together with a detail statement of the facts on which his claim is based.

6. The Director General or General Manager is hereby authorized to make such orders as to the completion of particular machinery and material and the shipment and storage thereof as in his discretion will produce the greatest salvage to the United States, and he is further authorized and directed to dispose of such material and equipment either in the finished or unfinished state, at such prices as he shall deem the best obtainable under all of the circumstances.

In transactions, however, involving a net loss to the Government of more than $25,000, the matter shall be settled under the procedure defined in paragraph 2 of this resolution.

7. In the event that said Director General or General Manager is unable to effect settlements or disposition of said contracts and orders in accordance with the foregoing provisions, he shall make a statement of the facts and negotiations, together with his recommendations, to the board.

8. These resolutions shall apply only to cancellations made in the public interest and shall not affect cancellations for cause or cancellations made in the case of overpurchases, purchases made through error, or purchases requiring modification or cancellation through change of design.

The procedure outlined in this resolution is regularly followed by the staff officers assigned to the task of effecting these cancellations and making these adjustments. In practice the claimant submits a statement under oath, and this statement is checked up by a representative of the claims and cancellations section in conjunction with representatives of the district manager, district auditor, and district plant engineer.

When the report of this committee is received, negotiations are entered into with the contractor by one of the staff assistants, and when mutually satisfactory terms have been ascertained the findings are submitted to the cancellations board, consisting of the Vice President in Charge of Administration, the Vice President in Charge of Construction, the Manager of Division of Shipyard Plants, the Comptroller, and the General Counsel. The approval of this board, involving the payment of $50,000 or less, is final. In matters involving larger amounts the Director General's approval must be had in addition.

While adjustments are not being arrived at as quickly as possible, the machinery provided is working well, and increased expedition will shortly be achieved. The ascertainment of the facts, the many claims pressed for consideration that, while beyond the provisions of the contract, yet find considerable support in the general understandings, correspondence, and instructions of the earlier days, make the adjustment of wood-ship settlements a difficult and therefore slow job.

The premature announcement by the chairman of the cancellation of another 2,000,000 tons of steel ships has made it difficult to reach adjustments in connection with steel vessels now under suspension, and we can hope to make no advantageous settlements in further steel-ship cancellations until we relieve the shipyards from the embargo on foreign sales.

In order to accelerate adjustments on the Pacific coast we have created an organization similar to that at the home office for verifying claims and conducting negotiations, subject to review and final approval of the board of cancellations and the Director General.

The members of my staff who are handling these difficult adjustments have shown great intelligence and industry in gathering the facts and great tact and patience in handling the negotiations. The adjustments thus far concluded have shown gratifying results in the moderation of their amounts.

Adjustments like those at Hog Island and Skinner & Eddy, now before the board, ought to receive prompt attention.

DISTRICT OFFICES.

Amid the pressure of other work our district officers were permitted to build up their organizations as their needs warranted. The conditions in the districts were not the same and until these differences were analyzed and proper allowances made it was impossible to determine upon a standard form of organization. Manifestly, districts with many new yards under inexperienced management require a very much larger office and field force than districts with long-established and experienced yards. Districts with many cost-plus contracts, and those with new yards building wholly or partly at Government expense, require a far greater amount of supervision than districts having largely contracts of the lump-sum kind and in which yard expansions are made at the expense of the contractors.

While recognizing that considerable differences in the expenses of district offices must exist, we felt that some uniformity in organization could be obtained and economies thereby effected. Accordingly, one of my staff assistants, Mr. Charles F. Wallace, was assigned to the task some four months ago of investigating the organization, conditions, and expenses of the district offices and submitting recommendations for a standard organization of sufficient flexibility to accommodate itself to the varying conditions of the several districts. Mr. Wallace submitted his report on April 29 and forwarded a copy with letter of explanation to each of the district managers. The mere fact that the report shows considerable variations in expenditures for similar functions will, I am sure, serve as a spur to bring the expenses down. After the organizations have been rearranged

according to the charts accompanying the report, the offices can be put on a budget system.

There is attached hereto for the information of the board, marked "Exhibit 3," summary and detailed comparisons of district office expenses taken from the Wallace report.

TRANSFER OF PROPERTY BY EMERGENCY FLEET CORPORATION.

I am submitting herewith letter and opinion of General Counsel Willard C. McNitt on this important question and recommend that the board have suitable legislation prepared to cover the questions raised.

Mr. CHARLES PIEZ, *Director General:*

We are taking the position, when we find it advisable to use sovereign powers and in order to have litigation disposed of in the Federal courts, that we are an instrumentality of the Federal Government. If we are correct in this position that we are, in a way, the Government, we can dispose of property only upon authority from Congress. As to some kinds of property we clearly have such authority. As to other kinds, such authority is more doubtful. It is recommended that by action of the President and by legislation of Congress, our acts in this respect in the past, where doubtful, be ratified, and that our powers to be used in the future be increased.

The facts are, the Fleet Corporation can dispose of the following property:

(1) Real and personal property acquired under the housing act—direct authority from Congress.

(2) Logs and real estate acquired for production of timber and lumber—authority given to the President acting through the Fleet Corporation and Shipping Board.

(3) Ships—authority given to the President and delegated by him. This has been construed, with Mr. Whipple's concurrence, to mean material intended for ship construction.

Except as to these three classes of property, our power to sell or otherwise dispose of property is not clear. You are respectfully referred to the attached opinion, which in detail gives the various acts and explains our doubtful and implied powers.

The matter may not previously have been brought to your attention, because proper legislation will correct any difficulties and the question was not, therefore, considered of sufficient importance to hold up our program while such legislation was being secured. Now, however, because of our dry-dock program, which involves the ownership and leasing of valuable dry-dock property, and because of our cancellation and salvage program, which involves the sale of personal and real property of all description, we feel that the matter should be considered and that appropriate action should be obtained from Congress and from the President.

WILLARD C. MCNITT,
General Counsel.

OPINION.

1. The Fleet Corporation is authorized to sell, lease, or exchange lands, houses, buildings, fixtures, furnishings and facilities obtained or acquired pursuant to the housing act (Public act 102, 65th Cong., Mar. 1, 1918).

2. The President, acting through various departments of the Government and through the Shipping Board and Emergency Fleet Corporation, has been authorized to dispose of logs and land or interest in real estate acquired for the production of timber and lumber. (Public act 193, July 9, 1918, subchapter XV, sec. 8.)

3. The power to dispose of ships has been vested in the President (Emergency Shipping fund provision of act of June 15, 1917). This power has been delegated by

the President to the Shipping Board by Executive orders of July 11, 1917, and December 3, 1918, with the right to exercise it through the Emergency Fleet Corporation.

It is understood that a brief by Mr. Wehle, formerly assistant counsel, in which Mr. Whipple concurs, interprets this provision as authorizing the disposition by the Shipping Board with power to delegate to the Fleet Corporation of at least such material as is intended for incorporation into ships.

4. As to property other than that covered by the three preceding subdivisions, no express authority for its disposition by the Fleet Corporation has been found, unless it can be worked out through Public act 193 of the Sixty-fifth Congress.

The relevant portion of Public act 193 as affected by act approved February 25, 1919, is as follows:

"*Sale of war supplies:* That the President be, and he hereby is, authorized, through the head of any executive department, to sell, upon such terms as the head of such department shall deem expedient, to any person, partnership, association, corporation, or any other department of the Government, or to any foreign State or Government, engaged in war against any Government with which the United States is at war, any war supplies, material, and equipment, and any by-products thereof, and any building, plant, or factory, acquired since April sixth, nineteen hundred and seventeen, including the lands upon which the plant or factory may be situated, for the production of such war supplies, materials, and equipment, which, during the present emergency, may have or may hereafter be purchased, acquired, or manufactured by the United States: *Provided further*, That sales of guns and ammunition made under the authority contained in this or any other act shall be limited to sales to other departments of the Government and to foreign States or Governments engaged in war against any Government with which the United States is at war, and to members of the National Rifle Association and of other recognized associations organized in the United States for the encouragement of small-arms target practice: *Provided further*, That a detailed report shall be made to Congress on the first day of each regular session of the sales of any war supplies, material, lands, factories, or buildings, and equipment made under the authority contained in this or any other act, except sales made to any foreign State or Government engaged in war against any Government with which the United States is at war, showing the character of the articles sold, to whom sold, the price received therefor, and the purpose for which sold."

The Fleet Corporation is, however, not believed to be an executive department, but the President might dispose of the property in question through the head of an *executive department*, for example, the Secretary of the Navy, who might subdelegate to the Shipping Board or the Fleet Corporation, or there is a possibility that the President might, under the Overman Act of May 20, 1918, transfer the power so far as it related to ships and material, supplies, and equipment for their construction, operation, and maintenance to the Fleet Corporation or the Shipping Board. Such transfer, however, would only be operative until the end of the war.

Public act 145 of May 10, 1918, covers substantially the same ground as Public act 193 and is probably superseded by the later act.

5. *Implied power.*—By the broad language of the urgent deficiencies act, it must have been contemplated that articles should be purchased by the Fleet Corporation and installed in plants belonging to other persons. If so installed in the plants of other persons it must have been assumed that the right to dispose of such property would go with such installation.

The manner in which the whole shipping program was conceived, therefore, made it indispensable that the property of the Fleet Corporation be used by other persons, and this use was one of the comitants of the power to construct vessels. The action of the Fleet Corporation has been consistent with this theory and many of its earlier contracts, in fact, provide for the sale or lease of Fleet Corporation property. No criticism has apparently been made of such procedure.

This memorandum is now submitted to you in view—

(*a*) Of the present dry-dock program, which involves the ownership of the dry dock by the Fleet Corporation and a lease by it for a term of years, with a provision for title to the dry dock to pass at the end of the term.

(*b*) Also in connection with the cancellation program, it is probable that in some cases at least the disposition of property other than that originally intended for incorporation into ships is involved.

(*c*) Other contracts, not cancellation settlements, involving the disposition of property of the Fleet Corporation not necessary to its present program, have been made (some in the early days of the Fleet Corporation as before stated), or are being negotiated, which may involve the same question.

The difficulties pointed out in this memorandum can be cleared up by legislation or by action of the President, as above indicated, and the Legal Division has, therefore, not been willing to hold up the program of the Fleet Corporation pending such legislation or action, but believes that the matter should not be brought to your attention.

Copies of a letter from Commissioner Donald to the President and of his reply thereto are attached for your information as showing the President's attitude in this matter.

It is recommended that an attempt should be made as soon as possible to secure action by the President, and it is also considered advisable that legislation be secured at the coming session of Congress expressly covering the points suggested in this memorandum.

CONSTRUCTION OF SHIPYARDS AND PLANTS.

The report of Admiral Rousseau, attached hereto, is sufficiently complete to require no further comment. Certain investments were made in most of the plants for both fire and plant protection and these investments were made because of the vulnerability of the yards to attack by enemy sympathizers and because one man with a match could, if the plant had been left unguarded and unprovided with means for fighting fire, have destroyed it. As we carried our own plant insurance wherever we owned the plant and hull insurance everywhere, we were well justified, as our insurance records and our exceptionally low loss ratio prove, in spending a portion of our premiums in this way. In the installation of all fire protection we were guided by a committee representing the underwriters.

ADMINISTRATION.

When Mr. Schwab came with the corporation he decided, for the purpose of lightening the load on the executive officers, to divide the duties into those pertaining to ship and plant construction and those pertaining to finance and administration. Mr. Howard Coonley was elected vice president to fill the latter place. While Mr. Schwab changed the character of his organization in August, placing back the reins of both the construction and administrative matters of the corporation into the hands of the Vice President and General Manager, Mr. Coonley, who had discharged his functions so acceptably and ably, was left in complete control of the matters to which he was originally

assigned. I am, therefore, submitting without further comments his report on the financial and administrative affairs of the corporation.

SHIP CONSTRUCTION.

The report of Mr. Daniel H. Cox, Manager of the Division of Ship Construction, is so exhaustive, and answers in detail the questions usually raised concerning the size of our program, its state of progress, and rate of production, with character of vessels furnished, that no further general comment on these questions is necessary. Mr. Cox's statements concerning the design, construction, and inspection of vessels are a complete reply to the criticism, so often launched by those ignorant of our methods and of the results achieved, that the Fleet Corporation was building unseaworthy and worthless ships. Since the signing of the armistice and the relief of the tension accompanying it, the character of inspection has grown considerably more rigid and the trials to which the vessels are subjected, before final acceptance, considerably more severe. The Division of Construction is working hand in hand with the Division of Operations in improving the character of vessels now in process of completion and this cooperation has already resulted in distinct improvements in arrangement and in improvements in character of work done. The latter improvement is, of course, the natural result of the changed conditions which brought with them the elimination of the inexperienced and unfit workers from the shipyards.

STATEMENT OF APPROPRIATIONS, TREASURY WITHDRAWALS, AND BALANCE AVAILABLE AS OF MAY 1, 1919.

When both the sundry civil bill and the urgent deficiencies bill failed of passage before the expiration of the last Congress, it looked as if our balances would be large enough to carry us into August without further appropriations, but the recession of industrial activity during the past few months has resulted in increasing the deliveries of ship materials to an astonishing extent, so that our expenditures during the months of March and April have been larger by many millions than we expected them to be.

I am submitting herewith statement showing the total appropriations, the withdrawals and disbursements, and the total balance of funds available as of May 1, 1919. The total sum for ship construction is $210,586,382, and there is in addition to this amount in the form of imprest funds a balance to our credit of somewhere between $30,000,000 and $40,000,000. It is unlikely that this fund will carry us beyond July 15 and immediate steps should, therefore, be taken by your board to place the urgency of the Fleet Corporation's needs before Congress, so that prompt action in the matter of appropriations will result.

It is very possible that the board can use the capital stock of $50,000,000 in the payments of bills for ship construction should congressional action on appropriations be delayed.

Statement of appropriations, Treasury withdrawals, and balance available as of May 1, 1919.

	Total appropriations.	Withdrawals per treasurer's report, Apr. 30, 1919.	Disbursed.	Balance in hands of U. S. Shipping Board treasurer.	Balance of appropriations in U. S. Treasury.	Total balance of funds available.
Requisition ships. Division of operations	$415,000,000	$375,294,041.65 39,705,958.35	$375,025,614.09 39,705,958.35	$268,427.56	.....	$268,427.56
Ship construction	1,938,451,000	1,857,000,000.00	1,727,864,617.20	129,135,382.80	$81,451,000	210,586,382.80
Housing	75,000,000	60,000,000.00	55,009,542.10	4,990,457.90	15,000,000	19,990,457.90
Transportation	20,000,000	5,000,000.00	1,802,147.47	3,197,852.53	15,000,000	18,197,852.53
Plant and property	122,000,000	105,000,000.00	101,311,283.67	3,688,716.33	17,000,000	20,688,716.33
Foreign ships	55,000,000	25,000,000.00	15,674,559.71	9,325,440.29	30,000,000	39,325,440.29
Total	2,625,451,000	2,467,000,000.00	2,316,393,722.59	150,606,277.41	158,451,000	309,057,277.41

Condensed statement of authorizations, commitments, and balance available as of May 1, 1919.

	Authorizations.		Balance available.
Balance ship appropriations (see table following)	.....	.....	$251,423,134
Plant and property:			
Urgent deficiency act Oct. 6, 1917	$35,000,000		
Sundry civil appropriations act July 1, 1918	87,000,000		
	122,000,000		
Transferred from ship construction appropriation, act Nov. 4, 1918	34,662,500		
		$156,662,500	
Commitments:			
Fabricated and concrete shipyards	107,825,205		
Dry docks and marine railways	19,631,394		
		127,456,599	
Balance authorization available	.....	.....	29,205,901
Housing:			
Housing act Mar. 1, 1918	50,000,000		
Sundry civil appropriations act July 1, 1918	25,000,000		
		75,000,000	
Total commitments	.....	71,573,098	
Balance authorization available	.....	.....	3,426,902
Transportation:			
Sundry civil appropriations act July 1, 1918	.....	20,000,000	
Total commitments	.....	11,600,593	
Balance authorization available	.....	.....	8,399,407
Total balance of authorizations	.....	.....	292,455,344

NOTE.—Expenditures from requisition ship appropriation aggregating $40,000,000 for U. S. Shipping Board, Division of Operations, are not included in the above statement.

Condensed statement of authorizations and commitments for ship construction as of May 1, 1919.

	Ships.	Dead-weight tons.	Value.	
Authorizations:				
Urgent deficiency act June 15, 1917—				
Requisition ships			$250,000,000	
Contract ships			500,000,000	
				$750,000,000
Urgent deficiency act Oct. 6, 1917—				
Requisition ships			265,000,000	
Contract ships			734,000,000	
				999,000,000
Sundry civil appropriation act July 1, 1918—				
Contract ships			1,650,000,000	
Foreign ship construction			55,000,000	
				1,705,000,000
Total authorizations				3,454,000,000
Less amount set aside for dry docks and marine railways				34,662,500
Net ship construction authorizations				3,419,337,500
Commitments:				
Total ship construction contracts—				
Requisition ships	391	2,724,981	535,615,823	
Contract steel ships	1,633	10,870,105	2,370,119,957	
Contract wood ships	917	2,737,100	564,437,421	
Contract concrete ships	22	148,500	23,140,000	
Contract foreign ships	34	285,850	50,823,750	
	2,997	16,766,536	3,544,136,951	
Less suspensions and cancellations—				
Requisition ships	7	77,500	11,095,313	
Contract steel ships	258	1,710,850	281,361,110	
Contract wood ships	260	804,850	124,467,390	
Contract concrete ships	8	60,000	8,120,000	
	533	2,653,200	425,043,813	
Net construction program May 1, 1919:				
Requisition ships	384	2,647,481	524,520,510	
Contract steel ships	1,375	9,159,255	2,088,758,847	
Contract wood ships	657	1,932,250	439,970,031	
Contract concrete ships	14	88,500	15,020,000	
Contract foreign ships	34	285,850	50,823,750	
Total	2,464	14,113,336	3,119,093,138	
Estimated cost machinery canceled			20,000,000	
Estimated cost wood shipyards and plant protection			13,129,458	
Estimated home and district administrative expense			35,000,000	
Estimated cost extensions to steel yards and other plants			37,099,770	
Total net commitments				3,224,322,366
Balance of ship construction authorizations				195,015,134
Value of requisitioned ships reconveyed to former owners				56,408,000
Balance of authorization available				251,423,134

TOTAL COST OF PROGRAM.

During the investigation before the Senate Commerce Committee, we submitted a report on December 14 in answer to resolution offered by Senator Harding, and on February 6 another report on Senator Nelson's resolution, both of which contained complete data concerning the state and cost of the ship construction program as it was then available. Many of the figures then presented have been revised in the light of more recent information and are contained both in this

report and in the reports of the various heads of divisions attached hereto.

In the matter of ship and plant construction, however, I am submitting attached hereto marked "Exhibit No. 4," a summary of the wood ship program, giving the estimated costs and the estimated savings effected by cancellations or conversions, as well as a detailed statement along the lines of those presented in answer to the Harding and Nelson resolutions covering the cost of steel ship construction. In many cases these figures are but estimates revised in the light of most recent changes and experiences, but I believe that the figures are sufficiently close to establish a fairly accurate estimate of the total cost of construction, so that the board may determine what portion of its authorizations it can surrender, should no further cancellations be made.

If, as I hope, some real effort will be made to sell the surplus vessels, both wood and steel, in any market that may exist, the amount of the available balance will be increased by the amount of these sales.

It should be borne in mind, in this connection, that the costs given in some cases have been reduced by the expected proceeds of the sale of salvaged material. On this account the total outlay will, if sales are not effected before the completion of the program, be somewhat in excess of the figures appearing on the attached sheets. I have deemed it unnecessary, however, to make any allowances for this, because I feel that the sale of wooden vessels will provide sufficient funds for temporary investment in excess of the amount of the costs given, and that the net balance therefore can be surrendered without jeopardizing the completion of the program.

REPORT OF SHIPPERS' COMMITTEE ON THE CHARACTER AND UTILITY OF VESSELS NOW UNDER CONSTRUCTION.

NEW YORK, N. Y., *February 10, 1919.*

The UNITED STATES SHIPPING BOARD,
Washington, D. C.

GENTLEMEN: In accordance with request of your board, this committee has made an investigation and has considered the shipbuilding program pursuant to your letter of January 21.

As a preface to the recommendations hereinafter set forth, the committee wish to make plain that they have approached this question having in mind the great public importance of an American merchant marine, and that the merchant marine which we now have and which will result from the contracts already under way, comes as a result of a war emergency, in consequence of which it naturally has not been built in accordance with commercial precedent. To deal with the question, therefore, from a purely commercial standpoint, would be unwise. In view of the origin of the fleet, broad grounds of sound public policy are the only ones upon which we deem it safe to proceed to a consideration of this problem.

From information derived from, and discussions held with Emergency Fleet Corporation officials, we gather they have, under the war emergency, entered into many contracts, so widely scattered over our country, and of such divergent and varied

types, that to attempt to particularize, would require probably months of time, and employment of a corps of technical and statistical assistants. Hence, as we understand time is of importance, we must necessarily, at least for the present, review the situation generally, rather than with reference to special contracts or ships.

From information received we gather that the Fleet Corporation has requisitioned during building, or has entered into contracts for, the construction of between 3,000,000 and 4,000,000 tons total deadweight of wooden, composite, and concrete vessels, and approximately 13,000,000 tons of steel steamers. It is this program, in respect of which the Government is said to be under contractural obligations, which we are requested to review.

I. WOODEN COMPOSITE AND CONCRETE SHIPS.

These vessels were conceived and planned solely as a war measure. The war emergency having passed, we feel that these ships can not successfully survive future competition. We therefore recommend that the wooden, composite, and concrete vessels, completed or otherwise, be sold, with the privilege of transferring flag, as fast as they can be disposed of. We further recommend that wherever machinery and boiler contracts can reasonably be canceled this course should be followed, and the hulls for which such equipment is intended should be sold. We suggest that one or two of the concrete steamers be built and retained, at least temporarily, for experimental purposes.

II. STEEL STEAMERS—GENERAL OBSERVATIONS.

The committee feel that the cancellation of contracts for steel steamers will involve such liabilities and will cause such disorganization in the shipbuilding industry, and in the communities depending thereon, that it is inadvisable to enter upon a considerable program of cancellation of steel shipbuilding. We believe it will be found more economical to build a majority of the steel ships and thus have an asset which will prove of some value, rather than to cancel on a large scale, which would mean a loss on the investment already made, as well as claims for compensation on the canceled contracts. The continuation of the building program in respect of steamers of useful size and type for the foreign trade would also be in recognition of the national desire for the upbuilding of the American merchant marine.

III. STEEL STEAMERS, SPECIFIC RECOMMENDATIONS.

On this subject we recommend as follows:

(*a*) In view of the advanced condition of the 1919 commitments for steel rollings, fabrication, and building, which appears from the records of the Fleet Corporation, we recommend that the steel steamers which are to be completed and delivered in 1919 should not be canceled.

(*b*) Steel steamers of over 9,000 tons total dead-weight capacity, deliverable in 1920, should not be canceled. Ships of under 9,000 tons total dead-weight capacity deliverable in 1920, should be canceled in all cases in which the difference between the total cost of construction and cost of cancellation would exceed the reasonable market value for the vessels at the date of expected completion, unless a larger type steamer, as described in paragraph (*c*) hereunder, can be substituted on advantageous terms. In accordance with this general principle we recommend that steel steamers to be completed in 1920 and thereafter, of less than 9,000 tons total dead-weight capacity, costing about $200 per ton or over, should be canceled in all cases in which this can be done at a cost of approximately $75 per dead-weight ton, as it is doubtful whether such steamers would have a market value when completed of more than $100 per ton dead-weight capacity.

(*c*) Every effort should be made to change contracts for the slower type of cargo steamers into contracts for larger, higher type, shelter-deck, cargo steamers, of 11,000

to about 15,000 tons total dead-weight capacity, and capable of maintaining at least 12 knots sea speed, wherever the existing building facilities will permit.

(*d*) No cancellation should be made if the steamers considered for cancellation can be sold, including the right to transfer flag at or about their cost to build.

IV. STEEL STEAMERS—5,000 TONS OR UNDER.

We are convinced that from the point of view of a future merchant marine in foreign trade there are too many steamers built and building of a capacity of about 5,000 tons and under. At the first meeting of this committee held on January 20, at which some members of your board and officers of the Emergency Fleet Corporation were present, we strongly recommended that in view of the large number of small steamers under 4,200 tons being constructed about one-half should be immediately sold, with the right to transfer flag. We now renew this recommendation, and further, we recommend that approximately one-half of the steamers of a capacity of about 5,000 tons or under should be sold with right to transfer flag, and in their place, so far as this can be done, a higher type of cargo steamer or combined cargo and passenger ship should be built.

V. PASSENGER STEAMERS.

In general we are in favor of building a sufficient number of combined passenger and freight steamers of the various sizes, together with two or three of the largest express passenger steamers, to enable this country to compete successfully in the passenger-carrying trade of the world. The construction of these steamers is most essential if we are to have a properly balanced merchant marine.

Beyond the foregoing, the committee can not make any recommendations as to types and sizes of steamers to be constructed until it is informed of the policy of the United States regarding shipping, and what trades it is desired to foster, so that steamers suitable for such trades can be suggested.

The committee desires to express its thanks to the officers of the Emergency Fleet Corporation for the aid and assistance which they have at all times gladly given this committee.

Respectfully submitted.

P. A. S. Franklin.
H. H. Raymond.
F. D. M. Strachan.
G. S. Dearborn.

March 12, 1919.

To the Board of Trustees, United States Shipping Board,
Washington, D. C.

Gentlemen: There are some conflicting opinions as to the policy we are to pursue in the cancellation of steel-ship contracts, and I think it is necessary for the board to give consideration to this subject, and definitely determine its policy in respect thereto. Thus far the Director General of the Fleet Corporation, with the consent of the board, has proceeded to cancel in such cases where good business judgment indicated that the Government would suffer less from cancellation than it would through completion of the vessel. While no definite policy concerning the size of our future merchant marine has as yet been announced, I acted on the conviction that cancellations were necessary—first, in order to bring the net program within the compass of our authorizations, and, second, in order to prevent the construction of vessels which would not prove serviceable or profitable on the return of peace-time conditions.

The board appointed a committee, consisting of Messrs. Franklin, Farrell, Dearborn, Raymond, Strachan, Rosseter, and myself, which submitted a report that has served as a guide to our actions.

The cancellations of steel-ship contracts, beginning with the armistice, include 156 cargo ships, 1,296,525 dead-weight tons; 29 tankers, 268,200 dead-weight tons; 35 troop ships, 280,000 dead-weight tons; and 56 tugs, making a total of 276 vessels of 1,844,725 dead-weight tons; in addition we have canceled 9 requisitioned steel ships of 97,700 dead-weight tons, so that our total steel-ship cancellations to date are 1,942,425 dead-weight tons.

The board has given me authority to cancel all vessels, the keels for which would not be laid until after July 1, and I have exercised this authority in every case in which the loss, by reason of the progress and commitments made, was not too great. In case of the fabricated yards, materials have accumulated to such an extent that we have contented ourselves with the cancellation of 35 class B ships at Hog Island, and twenty 9,000-ton ships at Bristol, in spite of the fact that many of the remaining ships, and many of those at the Submarine Boat plant, will not have their keels laid until after the period set by the board. I have made exceptions in the new yards which have invested considerable of their money, and which seem to show a justifiable progress. In these cases cancellation would have carried with it the repayment of the money spent in yard construction.

Apparently, there is a feeling on the part of some members of the board that cancellations should proceed along much more radical lines, and that cancellations should include a number of the troop or passenger ships which heretofore have been regarded as the most valuable part of our program. There are at present under construction 19 of these vessels of about 535-foot length, with a speed of 17 knots, and 7 ships of about 505-foot length, with a speed of about 14 knots. Cancellations in these cases would, in all probability, be expensive, and definite decision should be made by the board, and proper instructions issued to me. It seems essential that the board, before proceeding further with cancellations, should determine what ultimate program it intends to work toward, and then issue its instructions in line with that ultimate program. If it is simply desired that further cancellations be made, then specific instructions along the line of wood ship, wood barges, and ocean-going harbor tug cancellations should be issued by the Board of Trustees to the Director General of the Fleet Corporation.

Yours, very truly,

CHARLES PIEZ,
Director General.

MARCH 15, 1919.

Mr. CHARLES PIEZ,
Director General Emergency Fleet Corporation,
Philadelphia, Pa.

DEAR MR. PIEZ: Your letter of March 12 is very much appreciated. The problem of extending our cancellation policy is so important that we should set about it at once.

All are agreed that the principles upon which you have been acting are sound, and that the readjustment made to date has taken care of the Government's interest in the best way it has been possible to take care of it. Still, we realize that this readjustment has necessarily been made from a business viewpoint, and that we must also survey the question from a viewpoint which contemplates an ideal balance of the fleet before we can hope to lay down a policy that will be 100 per cent.

The report of the committee composed of Messrs. Farrell, Franklin, Raymond, Dearborn, and Strachan has furnished some valuable suggestions, but we feel that a more thorough survey should be made, and, as Mr. Stevens has suggested, that a further report on the matter should be asked of you. In conducting this resurvey and in preparing this report we suggest that you avail yourself of the services of Mr. W. S. Tower, who has made two trips abroad for us, and who has given much thought to the question of standardizing ships and trade routes.

Mr. Tower will go over early next week, and will report to you, so that you can put him in touch with whomsoever you may assign to the work.

Sincerely, yours,

E. N. HURLEY, *Chairman.*

APRIL 14, 1919.

Mr. E. N. HURLEY,
Chairman United States Shipping Board.
Washington, D, C.

DEAR SIR: Your several telegrams sent from St. Augustine, dated April 7, and referring to the policy which the Fleet Corporation should follow in respect of cancellations, and in particular to the conditions at the Merrill-Stevens yard, touch on a subject of such great importance that I think it advisable to briefly review the steps that have led up to the present situation.

It was understood, throughout my connection with the Fleet Corporation, and this same conception was held by Mr. Schwab during his incumbency, that the Construction Division of the Fleet Corporation would build the number and character of vessels that it was ordered to build by the Board of Trustees and by the United States Shipping Board.

I submitted to you, on December 31, 1917, for the approval of the Board of Trustees, a letter defining the policy in connection with new ship construction, and had prepared at that time, by a specially appointed committee consisting of Admiral Bowles, Capt. Radford, and Mr. Bender, a report on appropriations and program. While no definite instructions were ever received from the trustees in connection with this report, it did, in the absence of other instructions, serve as the basis of the contracts we placed, until the rather unexpected demands of the War Department, during March and April, brought about a very considerable revision. The program at that time was presented to the Board of Trustees in connection with our request for authorizations and appropriations and had the approval of the board. It served as the basis of our contracts except in those cases where specific instructions and experience compelled a modification.

During the hearings before the Appropriations Committee early this year I was cross-examined at considerable length on the extent to which the program submitted to the committee in May had been carried out or modified up to the time of the hearing in January, and we submitted at that time a very complete report in connection with my testimony before the committee. We explained very fully, both before the Appropriations Committee and before the Senate Committee on Commerce what our purpose, was and why wholesale cancellations could not, on either financial or industrial grounds, be made. Congress was, therefore, reasonably well informed, through these committees, as to the purpose the Feet Corporation had in mind, and was privy to such steps for the reduction of our program as had been taken at that time.

You will probably recall that as late as last September you predicted an American merchant marine of 25,000,000 dead-weight tons; and you will probably recall that immediately after the signing of the armistice, when some member of the board suggested radical cancellations, you objected on the ground that that did not comport with the policy of the Administration. Of course, in the meantime, the contract for both yard and ship construction at Alameda had been canceled, we had entered on a sweeping cancellation of wooden barges and ocean-going tugs, and we had decided to begin the curtailment of our wood-ship construction; but a definite policy of cancellations was not arrived at for several months after you sailed for Europe.

The Board of Trustees was very conscious, all through that period, that funds which had been authorized and appropriated for an emergency should not, without good reason, be expended after the emergency was over; and the board was also conscious of the fact that ruthless cancellation might involve very heavy financial

loss, and might increase to a very considerable extent, the unemployment with which labor generally was threatened.

As a first step in arriving at a sane policy of cancellation, we called together a committee of prominent shippers, who carefully reviewed the existing program of construction and submitted, under date of February 10, certain observations and suggestions for the guidance of the board.

This report has not, however, been officially acted upon by the United States Shipping Board, to whom it was submitted, but it has served, nevertheless, as a guide to your executives in determining which characters of vessels should be singled out for cancellation.

As an indication that the executives of this corporation were not unmindful of the problems confronting both the United States Shipping Board and the Emergency Fleet Corporation, permit me to submit that I stated to the board, even before the hearings before the Senate Committee on Commerce began, that the Shipping Board was likely to be asked three questions:

First. How large an American merchant marine was to be constructed?

Second. Under what plan and by what methods was profitable employment to be found for the merchant marine so created? and

Third. What steps were to be taken to perpetuate shipbuilding as one of the large and virile American industries?

The policy of cancellation, I stated at that time, depended absolutely upon the answer to these questions, but thus far no answer has been made to any one of the three, except the statement recently issued by you, as an individual member of the board, announcing your plan of an American merchant marine; but even this plan did not indicate how large a fleet would result from our efforts, for your plan confined itself rather to the disposition of vessels which the accident of war had put into our hands.

Several months ago, as a result of continued discussion, the Board of Trustees authorized me to cancel all contracts for vessels the keels for which could not be laid before July 1, 1919, provided that the loss sustained through such cancellations would not be excessive. Under this authority we have proceeded as wisely as we could to order suspensions and effect cancellations, which to date have amounted to 2,200,000 tons in steel alone.

It is well to bear in mind in this connection that contracts placed with our three fabricating yards amounted to 25 per cent of our steel contract ship program and that to date the unfinished tonnage in these yards represents fully 25 per cent of the uncanceled tonnage still to be completed. It is almost out of the question to cancel in these yards more than the 56 ships on which work has already been suspended, because these contracts are so old that substantially all of the material has been either delivered or is ready to deliver, and the cost of cancellation would, therefore, be prohibitive.

Your telegram of the 7th instant, therefore, which indicated that in your mind it was advisable to suspend work on all ships for which keels had not yet been laid and to revise all contracts based on the increased efficiency of all yards, struck me at this late date as somewhat revolutionary, to say the least. I am writing thus fully because I feel that your suggestion was born of your lack of recent contact with the problems that have confronted us, and was, therefore, made without full knowledge of all of the conditions; for I can say frankly that the policy suggested looks to me very much like one of scuttling the entire program, and that it should not be entertained on either financial or industrial and economic grounds.

The steps that should be taken to arrive at a definite program which the officers of your corporation can follow, are, in my judgment:

First. To have the United States Shipping Board and the Division of Operations determine approximately what American needs justify in the way of tonnage and character of vessels constituting that tonnage.

Second. To determine how the existing program of the Fleet Corporation can best be made to conform to the determination so reached.

Third. To arrive as nearly as possible at the price which tonnage is likely to bring in the next year or two.

Fourth. What opportunity can be found for the employment of the shipyard workers who will be thrown out of employment by a sudden interruption of shipyard activities.

The report of the shippers' committee dated February 10, Mr. Rosseter's judgment, and Mr. Tower's report ought to aid in reaching an answer to the first item.

I may say in this connection, however, that I believe Mr. Tower's report is based too much on English practice, and particularly upon English construction during the past year or two, without consideration of the fact that English practice during the past two years has been based not so much on trade needs as on meeting the attack of the submarine.

In giving consideration to the third item, it should be borne in mind that, in spite of rumors of low prices made by English yards, it is reported on very excellent authority that no British yard is at present willing to quote a firm figure or a firm delivery date, because the labor situation in England is extremely uncertain, and the widespread unrest and the effect on efficiency resulting therefrom make it impossible to quote firm figures without indulging in the wildest sort of speculation. But with the four factors known, we can lay down two guiding principles:

First. That we ought to sell for either private or foreign account all ships thus far constructed or under construction which do not conform in general to the ideal fleet determined upon.

Second. That if the net program for sales and cancellations thus far effected is in excess of a moderate estimate of the needs of American foreign commerce, we should cancel all vessels in which the cost of cancellation is less than the difference between the probable price and the contract price. In other words, if the contract price of a certain type of ship is $195 per ton and the probable current price 6 or 12 months hence $125 per ton, we ought to cancel if the cost of cancellation can be effected within $70 per dead-weight ton.

I feel, too, that wherever it is possible to effect a fairer adjustment of cancellations, certain large and fast cargo ships along the lines suggested by Mr. Rosseter be substituted for the canceled vessels, though this is, I know, contrary to the judgment of some of the members of the board. I do feel that we have on our hands, whether we intended it or not, a fleet of vessels which is the beginning, at least, of an American merchant marine, and that it is to our advantage to make this fleet as fairly representative in type and size of vessels, as our judgment and the opportunities at hand permit. I look forward, if the sale of at least 200 of the smaller tonnage ships is permitted, to a fairly considerable credit balance on our authorizations and appropriations, and I think we would be forgiven if we could add 20, or even 40, of these more desirable types of vessels to the fleet at present under construction, provided that these additions would involve the salvaging of material and effort that would otherwise have to be charged off as a total loss.

You have referred in one of your telegrams to the cost of producing ships now under contract, and the statement issued from Washington in connection with Mr. Ackerson's appointment reflects your interest in the cost of vessels now under way. We have gone further in this respect than you perhaps know, because we have attempted and, I think, will succeed in getting, the adoption of fairly uniform accounting methods in all of our best producing yards, so that results may be fairly comparable; but I should like to point out that costs during the early life of any industry and costs during such a period as we have just passed through do not at all reflect the possibilities of the industry. The costs of vessels either well under way or already finished are, of course, of interest, but give no indication of what costs under the changed

conditions are likely to be. Many of the weaker yards are likely to be in receivers' hands long before the processes have grown efficient enough to make a system of real value.

For your information I need only say that as a result of the effort made, about a month ago we induced some of the older shipbuilders who have lump-sum contracts to volunteer reductions in the price of vessels still to be completed, amounting in the case of the Skinner & Eddy Corporation to $326,000 for a 10,000-ton ship; in the case of the Ames Co., $100,000 for each of four 8,800-ton ships; and that the Northwest Steel Co. is at present preparing figures which they expect to submit in the course of a week or 10 days. I have already mentioned the modified contract with the American Shipbuilding Co. that will lead to a probable saving of between $9,000,000 and $18,000,000 on their contract. Yards that have but a limited amount of construction before them and are confronted with a problem of amortizing heavy plant investments are hardly likely to volunteer reductions, nor would we be justified in bringing them to financial disaster by peremptory cancellations. They have their rights under the contract and unwise cancellations will result in some heavy collectable claims against the Government.

Under the cost-plus-fee contracts the Fleet Corporation does, of course, participate in the reductions growing out of increased efficiency, and this is true also of the agency yards, which control a very considerable amount of the unfilled tonnage.

I am submitting this statement, not as a vindication of the policy which the Board of Trustees and the officers of the Fleet Corporation have followed in connection with cancellations, but rather to acquant you with the steps that have led up to our present policy, so that in the light of what has been decided and agreed upon, you may determine whether any radical departures from the established policy, such, for instance, as are indicated in your telegram, shall be made.

Very, truly, yours,

CHARLES PIEZ, *Director General.*

EXHIBIT No. 1.

Table showing the distribution of the employees of the Emergency Fleet Corporation by months in the field service and a similar distribution by divisions, independent sections, and offices.

[The remarks show the changes in organization.]

	1917									1918													1919			Remarks.
	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	
Total entire organization	21	73	178	306	465	686	945	1,313	1,533	1,791	2,228	3,044	4,074	4,740	6,370	6,893	7,408	7,868	7,895	7,379	7,351	6,997	6,365	6,275	
Total field organization	..	10	58	113	216	345	507	588	698	744	852	1,072	1,379	1,786	2,379	2,918	3,078	3,430	3,550	3,303	3,771	3,852	3,785	3,758	
Total home office	21	63	120	193	249	341	438	725	835	1,047	1,376	1,972	2,695	2,954	3,991	3,975	4,330	4,438	4,345	4,076	3,580	3,145	2,580	2,517	
Office of chief clerk	14	49	66	...	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in July, 1917, to Executive and Administrative Division.
Office of general manager	7	14	10	10	14	11	12	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in December, 1917, to office of vice president and general manager.
Marine engineering	...	...	17	25	26	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in September, 1917, to Construction Division.
Traffic division	...	...	10	15	18	20	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in November, 1917, to Transportation Division.
Purchasing Division	...	...	11	17	27	47	56	263	306	352	500	624	1,022	1,035	1,011	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in July, 1918, to Supply Division, as were the Transportation and Production Divisions.
Auditing Division	...	...	6	6	10	12	20	21	29	38	48	83	95	78	120	213	253	298	358	387	360	411	297	351	
Executive and Administrative Division.	...	...	...	107	130	161	189	245	272	394	450	565	813	667	1,431	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in July, 1918, to the general office.
Contract Division	...	...	...	4	3	2	3	5	5	6	8	6	5	4	6	10	12	12	11	10	10	9	9	9	
Legal Division	...	...	...	9	11	12	10	11	14	14	15	38	40	36	61	62	70	73	79	81	70	76	69	64	
Commandeered ships	...	...	...	...	10	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in September, 1917, to Construction Division.
Construction Division	...	...	...	...	...	71	91	121	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in December, 1917, to Steel Ship Division.
Shipyard Plants Division	...	...	...	...	...	5	23	14	22	28	51	40	42	49	50	61	78	107	99	65	73	83	97	114	
Transportation Division	...	...	...	...	...	...	...	30	30	32	48	78	90	88	89	.....	.....	.....	.....	.....	.....	.....	.....	.....	Transferred in July, 1918, to Supply Division, as were also the Purchasing and Production Divisions.

EXHIBIT No. 1—Continued.

Table showing the distribution of the employees of the Emergency Fleet Corporation by months in the field service and a similar distribution by divisions, independent sections, and offices—Continued.

	1917									1918													1919			Remarks.
	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	
Vice President and General Manager.									18	18	20	23	[1] 13	[2] 25	21	26	29	[3] 102	14	11	[4] 7				
Steel Ship Division									136	110	134	177	195	283	444	521	572	546	585	578	433				Transferred in January, 1919, with Wood Ship Division to Ship Construction Division.
Wood Ship Division									3	20	51	106	144	59	56	61	62	61	67	[5] 69	62				Transferred in January, 1919, with Steel Ship Division to Ship Construction Division.
Labor Division										35	34	[5] 12	[6] 13												
Shipyard volunteers											6														Transferred in March, 1918, to general service with part of Labor Division.
Production Division											11	83	79	91	90										Transferred in July, 1918, to Supply Division, as were also the Transportation and Purchasing Division.
General service												137	131												Transferred in May, 1918, to Industrial Relations and Passenger Transportation and Housing Divisions.
Publication section													13	15	16	16	21	18	18	19	16	10	9	9	
Requirements section														6	7	14	14	9	9	11	9				Abolished on Jan. 17, 1919.
Plant-protection section														10	7	12	12	11	10	9	4	3	5	5	
Statistical section														63	74	57	80	103	104	87	75	56	42		Abolished Mar. 3, 1919; duties absorbed by records section of Ship Construction Division.
Vice President in charge of Administration.														13	18	16	22	26	24	24	34	46	44	64	
Industrial Relations Division														146	262	301	358	285	278	222	155	80	45	22	
Finance Division														1	20	38	47	48	53	47	54	51	50	50	
Director General's Office														2	5	3	3	3	3	4	4	10	9	8	
Passenger Transportation and Housing.														283	203	251	281	285	287	299	262	220	164	138	

Supply Division																	925	859	726	633	570	564	417	286	258	
General Office																	1,348	1,507	1,667	1,653	1,532	1,338	1,143	974	921	
Treasurer's office																	27	32	33	37	30	29	30	30	30	
Ship-protection committee																	6	6	6	4	2	2	.....	.....	.....	Transferred in January, 1919, to office of the president.
Labor Adjustment Board																	3	7	7	6	6	4	.....	.....	.....	Do.
American Chain Co																	1	1	1	1	1	1	.....	.....	.....	Transferred in January, 1919, to Auditing Division.
Secretary's office																	.....	4	5	5	6	7	7	8	12	
Vice President and Assistant General Manager.																	.....	.....	6	7	6	7	7	6	7	
Cancellation, adjustment, and salvage.																	.....	.....	.....	.....	.....	.....	38	51	71	Abolished Mar. 22: duties transferred to assistant in charge of cancellations, assistant in charge of salvage, Office of Director General.
Ship construction																	.....	.....	.....	.....	.....	.....	430	367	366	
President																	.....	.....	.....	.....	.....	.....	18	18	18	

[1] Heads of divisions were carried as of vice president and general manager office up to April, when assigned to their respcetive divisions.
[2] Increase in vice president and general manager's office from 13 to 25 in May, due to appointment of statisticians, later transferred to Statistical Section.
[3] Great increase in number in vice president and general manager's office due to fact that for month of September national service section, composed of about 86 employees, was carried as of this office.
[4] Transferred to Director General's office Dec. 10, 1918.
[5] Difference between 34 and 12, or 22, transferred in Mareh, 1918, to general service.
[6] Transferred in May, 1918, to Industrial Relations Division.

Exhibit No. 3.

Summary comparison of district office expense as of Apr. 1, 1919.

Name of district	Total except auditing, disbursing, and supply.		Auditing, disbursing, and supply.		Total.	
	Number of employees.	Salaries.	Number of employees.	Salaries.	Number of employees.	Salaries
Northern Atlantic	496	$1,040,259	304	$543,650	800	$1,583,909
Delaware River—all yards, including agency yards	382	884,642	349	628,406	731	1,513,048
Middle Atlantic	166	362,540	137	245,760	303	608,300
Southern	279	564,900	240	439,000	519	1,003,900
Southern Pacific	340	783,560	77	165,860	417	949,420
Northern Pacific	219	535,980	73	160,120	292	696,100
Great Lakes	129	353,390	217	414,300	346	767,690
New England	137	248,406	133	237,920	270	486,326
Gulf	130	255,560	106	169,120	236	424,680
Oregon	134	309,540	87	176,980	221	486,520
Total	2,412	5,338,777	1,723	3,181,116	4,135	8,519,893

Analysis of district office expense as of Apr. 1, 1919.

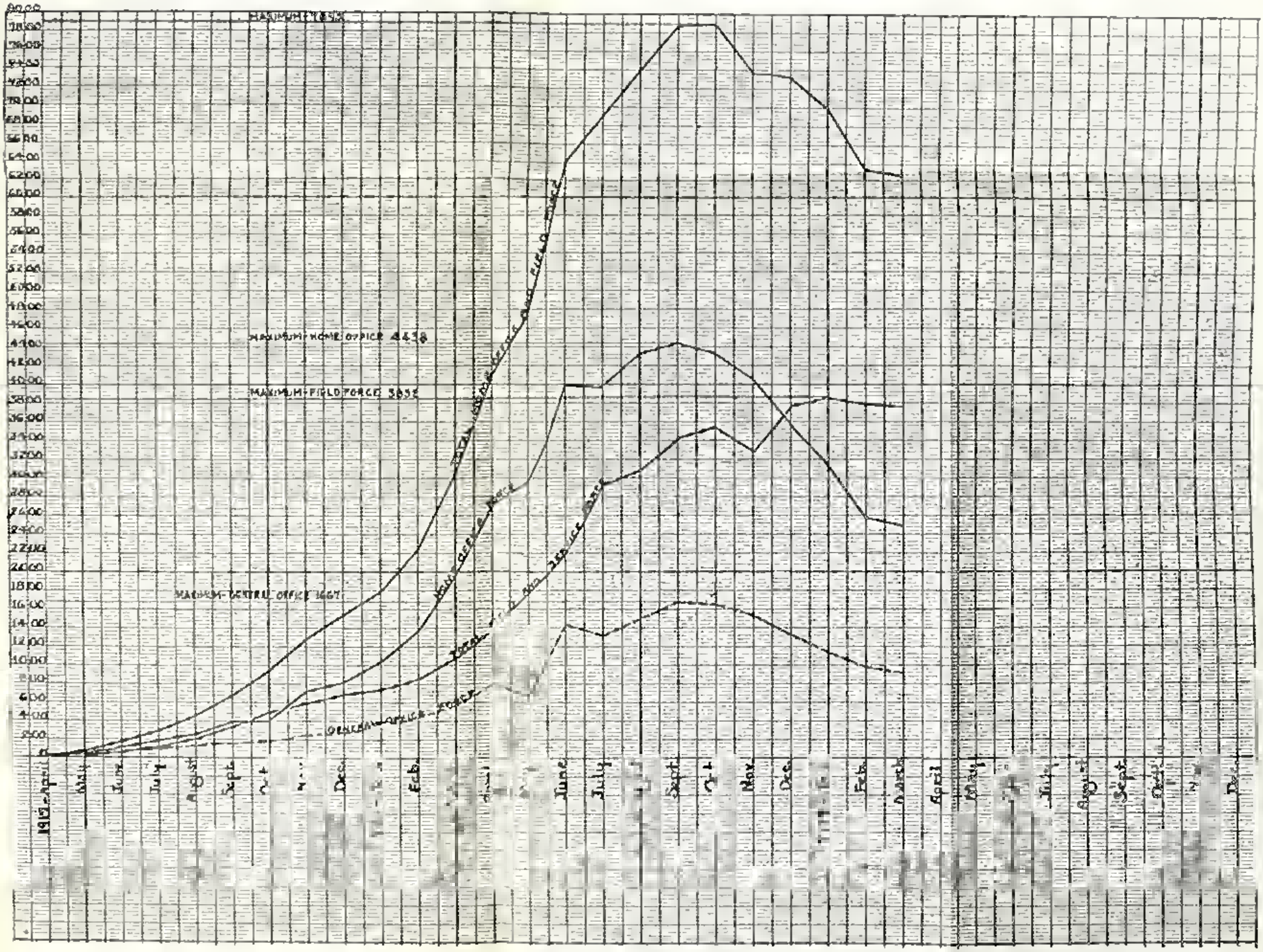
Name of district.	Total.						Steel.				
	Per active way.	Per ship.	Overhead per yard.	Yard cost per way.	Per cent office salaries to total.	Average salary per employee.	Per active way.	Per ship.	Overhead per yard.	Yard cost per way.	Rivets per inspector per month.
Great Lakes	$3,050	$1,750	$6,130	$1,900	38	$2,750	$2,220	$1,220	$2,500	$1,800	435,000
Middle Atlantic	5,500	4,650	9,350	2,260	59	2,170	4,640	3,810	9,100	2,660	197,333
Gulf	5,550	3,800	13,244	2,540	54	1,960					
Southern	5,800	5,300	10,600	2,250	60	2,040	3,660	3,350	6,020	1,850	58,000
Northern Pacific	6,100	3,150	11,800	2,850	53	2,450	4,100	2,670	7,650	2,650	255,000
Delaware River, excluding agency yards	6,500	4,350	10,400	4,250	35	1,900	5,050	3,350	4,500	4,100	59,000
Northern Atlantic	7,450	4,500	10,200	5,050	32	2,100	4,600	2,550	4,100	3,950	91,200
Delaware River total	7,900	5,900	30,000	5,000	36	2,060	5,800	4,350	12,300	4,600	66,000
New England	8,000	5,700	11,700	2,400	70	1,810					
North Atlantic, excluding submarine	8,500	5,800	10,600	5,330	37	2,100	6,500	4,050	4,460	3,930	88,500
Southern Pacific	9,900	6,500	18,500	5,160	48	2,300	7,040	4,400	6,800	5,710	113,500
Oregon	10,200	4,225	10,200	5,250	48	2,300					
Submarine yard	4,150	1,890		4,150		2,400	4,050	1,840		4,050	98,500
Agency yards	8,600	6,900	99,000	5,400	37	2,260	6,150	5,000	39,800	4,900	72,500

Name of district.	Wood.				Concrete.			
	Per active way.	Per ship.	Overhead per yard.	Yard cost per way.	Per active way.	Per ship.	Overhead per yard.	Yard cost per way.
Great Lakes	$1,550	$1,020	$800	$1,340				
Middle Atlantic	3,310	2,840	3,180	1,920	$9,850	$9,850	$16,880	$1,410
Gulf	4,120	2,830	7,344	2,450				
Southern	4,350	4,060	6,900	2,050	12,000	9,600	14,400	4,850
Northern Pacific	4,650	1,910	4,000	3,120				
Delaware River, excluding agency yards								
Northern Atlantic	4,500	3,750	2,520	3,250	2,460	2,460		2,460
Delaware River total								
New England	4,730	3,340	4,800	2,400				
North Atlantic, excluding submarine	4,500	3,780	2,500	3,260	2,460	2,460		2,460
Southern Pacific	4,520	3,080	5,800	2,520	13,200	13,200	9,300	8,550
Oregon	6,950	2,900	3,500	5,250				
Submarine yard								
Agency yards								

EXHIBIT 2

GRAPHIC CHART SHOWING DEVELOPMENT OF THE USSB-EFC.

AS MEASURED BY THE NUMBER OF ITS PERSONNEL



DETAILS OF DISTRICT OFFICE EXP

Exhibit No. 3—Continued.

	ITEM.	NORTHERN ATLANTIC DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	2	$14,000			2	$14,000
2	Legal and adjustment	2	5,160			2	5,160
3	Records	2	3,240			2	3,240
4	General office	16	22,680			16	22,680
5	Engineering						
6	Performance						
7	Industrial management	4	8,560			4	8,560
8	Purchasing	12	19,720	2	$3,240	14	22,960
9	Material control	22 9	31,000 14,760	59	95,380	22 68	31,000 110,140
10	Steel ship	17	53,300	139	349,356	156	402,656
11	Wood ship	15	32,640	41	84,824	56	117,464
12	Concrete ship			2	2,460	2	2,460
13	Shipyard plants	55	108,420	37	74,320	92	182,740
14	Industrial relations	16	37,460			16	37,460
15	Plant protection	4	8,400	29	46,739	33	55,139
16	Passenger transportation and housing	1	1,200			1	1,200
17	Supply—Transportation	10	23,400			10	23,400
18	Total	187	383,940	309	656,319	496	1,040,259
19	Auditing	61	106,220	172	299,666	233	405,886
20	Disbursing	5	11,100			5	11,100
21	Supply—Production	63	126,664			63	126,664
22	Supply—Lumber						
23	Grand total	319	627,924	481	955,985	800	1,583,909
24	Total salaries, except S. Y. P. (18-13)	132	273,520	272	583,999	404	857,519

	ITEM.	DELAWARE RIVER DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	2	$10,800			2	$10,800
2	Legal and adjustment	1	2,580			1	2,580
3	Records	7	9,904			7	9,904
4	General office	16	7,982			16	7,982
5	Engineering	1	1,320			1	1,320
6	Performance						
7	Industrial management						
8	Purchasing	5	2,856			5	2,856
9	Material control						
10	Steel ship	19	31,000	60	$130,350	79	161,350
11	Wood ship						
12	Concrete ship						
13	Shipyard plants	11	20,220	38	73,840	49	94,060
14	Industrial relations	5	5,400	2	5,400	7	10,800
15	Plant protection						
16	Passenger transportation and housing						
17	Supply—Transportation						
18	Total	67	92,662	100	209,590	167	302,252
19	Auditing	28	57,080	118	217,020	146	274,100
20	Disbursing	4	2,440			4	2,440
21	Supply—Production	53	117,460			53	117,460
22	Supply—Lumber						
23	Grand total	152	269,642	218	426,610	370	696,252
24	Total salaries, except S. Y. P. (18-13)	56	72,442	62	135,750	118	208,192

	ITEM.	MIDDLE ATLANTIC DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	2	$17,000			2	$17,000
2	Legal and adjustment						
3	Records	2	1,800			2	1,800
4	General office	8	11,080			8	11,080
5	Engineering	5	14,580			5	14,580
6	Performance						
7	Industrial management						
8	Purchasing	5	10,200			5	10,200
9	Material control						
10	Steel ship	29	45,520	24	61,260	53	106,780
11	Wood ship	21	41,540	26	57,660	47	99,200
12	Concrete ship	8	16,880	2	2,820	10	19,700
13	Shipyard plants	5	15,180	20	45,060	25	60,240
14	Industrial relations	2	7,200	1	2,700	3	9,900
15	Plant protection						
16	Passenger transportation and housing						
17	Supply—Transportation	6	12,060			6	12,060
18	Total	83	193,040	73	169,500	156	362,540
19	Auditing	35	60,840	89	167,910	124	228,750
20	Disbursing	5	6,240			5	6,240
21	Supply—Production	8	10,740			8	10,740
22	Supply—Lumber						
23	Grand total	141	270,860	162	337,440	303	608,300
24	Total salaries, except S. Y. P. (18-13)	88	177,860	53	124,440	141	302,300

	ITEM.	SOUTHERN DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	2	$10,000			2	$10,000
2	Legal and adjustment						
3	Records	4	6,120			4	6,120
4	General office	12	20,600			12	20,600
5	Engineering	1	3,000			1	3,000
6	Performance						
7	Industrial management						
8	Purchasing	13	17,740			13	17,740
9	Material control						
10	Steel ship	21	54,170	28	55,740	49	109,910
11	Wood ship	75	124,140	53	111,120	128	235,260
12	Concrete ship	12	28,780	9	19,440	21	48,220
13	Shipyard plants	14	27,280	11	27,120	25	54,400
14	Industrial relations	5	12,840	7	16,480	12	29,320
15	Plant protection	4	7,860			4	7,860
16	Passenger transportation and housing						
17	Supply—Transportation	8	16,440			8	16,440
18	Total	171	335,000	108	229,900	279	564,900
19	Auditing	105	197,120	73	139,380	178	336,500
20	Disbursing	9	13,740			9	13,740
21	Supply—Production	22	35,120			22	35,120
22	Supply—Lumber	31	53,340			31	53,340
23	Grand total	338	634,620	181	369,280	519	1,003,900
24	Total salaries, except S. Y. P. (18-13)	157	307,880	97	202,780	254	510,660

	ITEM.	SOUTHERN PACIFIC DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	3	$24,500			3	$24,500
2	Legal and adjustment	5	12,000			5	12,000
3	Records	2	5,400			2	5,400
4	General office	30	38,400			30	38,400
5	Engineering	19	58,600			19	58,600
6	Performance						
7	Industrial management						
8	Purchasing	9	16,260			9	16,260
9	Material control	16	25,500	7	$12,120	23	37,620
10	Steel ship	27	61,060	107	269,400	134	330,460
11	Wood ship	18	40,420	23	99,840	41	140,260
12	Concrete ship	8	18,600	17	34,220	25	52,820
13	Shipyard plants	8	15,180	16	35,820	24	51,000
14	Industrial relations	7	15,580	2	4,800	9	20,380
15	Plant protection	5	10,740	2	3,000	7	13,740
16	Passenger transportation and housing	1	4,200			1	4,200
17	Supply—Transportation	8	13,920			8	13,920
18	Total	136	366,360	174	417,200	310	783,560
19	Auditing	26	54,220	40	85,180	66	139,400
20	Disbursing	2	4,560			2	4,560
21	Supply—Production	9	21,900			9	21,900
22	Supply—Lumber						
23	Grand total	203	447,040	214	502,380	417	949,420
24	Total salaries, except S. Y. P. (18-13)	158	351,180	158	381,380	316	732,560

	ITEM.	NORTHERN PACIFIC DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	2	$17,500			2	$17,500
2	Legal and adjustment	4	13,060			4	13,060
3	Records	2	3,900			2	3,900
4	General office	11	19,380			11	19,380
5	Engineering	12	36,480			12	36,480
6	Performance						
7	Industrial management						
8	Purchasing	12	21,360			12	21,360
9	Material control						
10	Steel ship	22	68,960	48	$124,440	70	193,400
11	Wood ship	27	57,180	48	115,260	75	172,440
12	Concrete ship						
13	Shipyard plants	9	24,000			9	24,000
14	Industrial relations	3	9,560			3	9,560
15	Plant protection	2	6,000			2	6,000
16	Passenger transportation and housing	1	2,400			1	2,400
17	Supply—Transportation	10	15,900			10	15,900
18	Total	123	296,280	96	239,700	219	535,980
19	Auditing	23	51,680	31	64,920	54	116,600
20	Disbursing	4	8,340			4	8,340
21	Supply—Production	10	20,420			10	20,420
22	Supply—Lumber	5	8,700			5	8,700
23	Grand total	165	391,420	127	304,680	292	696,100
24	Total salaries, except S. Y. P. (18-13)	114	271,680	96	239,700	210	511,380

	ITEM.	GREAT LAKES DISTRICT. Office. Number of employees. (A)	Office. Salaries. (B)	Yard or warehouse. Number of employees. (C)	Yard or warehouse. Salaries. (D)	Total. Number of employees. (E)	Total. Salaries. (F)
1	District manager's office	4	$32,400			4	$32,400
2	Legal and adjustment						
3	Records						
4	General office	15	17,400			15	17,400
5	Engineering						
6	Performance						
7	Industrial management						
8	Purchasing	2	2,400	2	$4,800	4	7,200
9	Material control						
10	Steel ship	16	37,480	51	158,000	67	195,480
11	Wood ship	1	4,800	11	30,900	12	35,700
12	Concrete ship						
13	Shipyard plants	3	10,800	1	2,800	4	13,600
14	Industrial relations	3	3,720	3	11,000	6	14,720
15	Plant protection	1	2,100	2	6,300	3	8,400
16	Passenger transportation and housing						
17	Supply—Transportation	14	28,440			14	28,440
18	Total	50	139,540	70	213,850	120	353,390
19	Auditing	42	63,580	28	57,380	70	120,960
20	Disbursing	2	3,600			2	3,600
21	Supply—Production	145	259,740			145	259,740
22	Supply—Lumber						
23	Grand total	248	496,420	68	271,230	316	767,650
24	Total salaries, except S. Y. P. (18-13)	[illegible]	128,740	68	211,050	125	339,790

	ITEM.	District.	Number of hull inspectors. (G)	Construction progress. (H)	Number of active ways. (I)	Number of ships under construction. (J)	Number of yards. (K)	D. W. T. undelivered. (L)
25	Steel ship	NORTHERN ATLANTIC	82	R 7,405,613	55	158	13	1,510,634
26	Wood ship	NORTHERN ATLANTIC	17		26	31	13	47,000
27	Concrete ship	NORTHERN ATLANTIC			1	1	1	
28	Total	NORTHERN ATLANTIC	99		115	190	27	1,557,634
25	Steel ship	DELAWARE RIVER	46	(R) 2,737,375	32	48	7	
26	Wood ship	DELAWARE RIVER						
27	Concrete ship	DELAWARE RIVER						
28	Total	DELAWARE RIVER	46		32	48	7	
25	Steel ship	MIDDLE ATLANTIC	10	(R) 1,973,332	23	28	5	571,900
26	Wood ship	MIDDLE ATLANTIC	14		30	35	13	62,300
27	Concrete ship	MIDDLE ATLANTIC	2		2	2	1	7,000
28	Total	MIDDLE ATLANTIC	26		55	65	19	611,200
25	Steel ship	SOUTHERN	15	(R) 808,850	30	33	9	537,700
26	Wood ship	SOUTHERN	27		54	58	18	158,000
27	Concrete ship	SOUTHERN	3		4	5	2	40,500
28	Total	SOUTHERN	45		88	96	29	786,200
25	Steel ship	SOUTHERN PACIFIC	59	R 6,702,493	47	75	9	1,201,850
26	Wood ship	SOUTHERN PACIFIC	4		23	34	8	105,000
27	Concrete ship	SOUTHERN PACIFIC	3		4	4	2	37,500
28	Total	SOUTHERN PACIFIC	66		74	113	19	1,344,350
25	Steel ship	NORTHERN PACIFIC	26	R 6,648,400	47	72	9	1,110,500
26	Wood ship	NORTHERN PACIFIC	15		37	90	14	333,650
27	Concrete ship	NORTHERN PACIFIC						
28	Total	NORTHERN PACIFIC	41		84	162	23	1,444,100
25	Steel ship	GREAT LAKES		R 5,554,257	88	150	15	984,600
26	Wood ship	GREAT LAKES			23	35	6	
27	Concrete ship	GREAT LAKES						
28	Total	GREAT LAKES	34		111	194	21	

	ITEM.	District.	Salaries, except custody and inventory = (13 F-29 Q) (M)	Work under way expressed in dollars. (N)	Per cent complete. (O)	Custody and inventory. Number of employees. (P)	Custody and inventory. Salaries. (Q)
29	Shipyard plants	NORTHERN ATLANTIC	$133,300	38,606,150	84	28	$49,440
29	Shipyard plants	DELAWARE RIVER		104,303,559	94½		
29	Shipyard plants	MIDDLE ATLANTIC	$60,240	113,119,999	90		
29	Shipyard plants	SOUTHERN	$49,840	14,862,442	81	2	$4,560
29	Shipyard plants	SOUTHERN PACIFIC	48,000	8,054,497	91	2	3,000
29	Shipyard plants	NORTHERN PACIFIC	24,000	13,089,264	98		
29	Shipyard plants	GREAT LAKES	13,600	1,343,580	99		

	ITEM.	District.	Total.	Steel.	Wood.	Concrete.
30	Cost per active way	NORTHERN ATLANTIC	(24 F-28 I) $7,450	(10 F-25 I) $4,600	(11 F-26 I) $4,500	(12 F-27 I) $2,460
31	Cost per ship	NORTHERN ATLANTIC	(24 F-28 J) 4,500	(10 F-25 J) 2,550	(11 F-26 J) 3,750	(12 F-27 J) 2,460
32	Cost per equivalent D. W. T. erected*	NORTHERN ATLANTIC	(24 F-28 H)	(10 F-25 H) 54	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	NORTHERN ATLANTIC	....	(25 H-25 G) 91,200	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	NORTHERN ATLANTIC	(24 B-28 K) 10,200	(10 B-25 K) 4,100	(11 B-26 K) 2,510	(12 B-27 K) ....
35	Yard cost per way	NORTHERN ATLANTIC	(24 D-28 I) 5,050	(10 D-25 I) 3,950	(11 D-26 I) 3,250	(12 D-27 I) 2,460
30	Cost per active way	DELAWARE RIVER	(24 F-28 I) $6,500	(10 F-25 I) $5,050	(11 F-26 I)	(12 F-27 I) ....
31	Cost per ship	DELAWARE RIVER	(24 F-28 J) 4,350	(10 F-25 J) 3,350	(11 F-26 J)	(12 F-27 J) ....
32	Cost per equivalent D. W. T. erected*	DELAWARE RIVER	(24 F-28 H)	(10 F-25 H) 59	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	DELAWARE RIVER	....	(25 H-25 G) 59,600	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	DELAWARE RIVER	(24 B-28 K) 10,400	(10 B-25 K) 4,500	(11 B-26 K)	(12 B-27 K) ....
35	Yard cost per way	DELAWARE RIVER	(24 D-28 I) 4,250	(10 D-25 I) 4,100	(11 D-26 I)	(12 D-27 I) ....
30	Cost per active way	MIDDLE ATLANTIC	(24 F-28 I) $5,500	(10 F-25 I) $1,640	(11 F-26 I) $3,310	(12 F-27 I) $9,850
31	Cost per ship	MIDDLE ATLANTIC	(24 F-28 J) 4,650	(10 F-25 J) 3,810	(11 F-26 J) 2,840	(12 F-27 J) 9,850
32	Cost per equivalent D. W. T. erected*	MIDDLE ATLANTIC	(24 F-28 H)	(10 F-25 H) 54	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	MIDDLE ATLANTIC	....	(25 H-25 G) 197,333	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	MIDDLE ATLANTIC	(24 B-28 K) 9,350	(10 B-25 K) 9,100	(11 B-26 K) 3,180	(12 B-27 K) 16,880
35	Yard cost per way	MIDDLE ATLANTIC	(24 D-28 I) 2,260	(10 D-25 I) 2,660	(11 D-26 I) 1,920	(12 D-27 I) 1,410
30	Cost per active way	SOUTHERN	(24 F-28 I) $5,800	(10 F-25 I) $1,660	(11 F-26 I) $4,350	(12 F-27 I) $12,500
31	Cost per ship	SOUTHERN	(24 F-28 J) 5,300	(10 F-25 J) 3,350	(11 F-26 J) 4,060	(12 F-27 J) 9,660
32	Cost per equivalent D. W. T. erected*	SOUTHERN	(24 F-28 H)	(10 F-25 H) 127	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	SOUTHERN	....	(25 H-25 G) 58,000	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	SOUTHERN	(24 B-28 K) 10,900	(10 B-25 K) 6,020	(11 B-26 K) 6,900	(12 B-27 K) 14,400
35	Yard cost per way	SOUTHERN	(24 D-28 I) 2,250	(10 D-25 I) 1,850	(11 D-26 I) 2,050	(12 D-27 I) 4,850
30	Cost per active way	SOUTHERN PACIFIC	(24 F-28 I) 9,000	(10 F-25 I) 7,040	(11 F-26 I) 4,720	(12 F-27 I) 12,200
31	Cost per ship	SOUTHERN PACIFIC	(24 F-28 J) 6,500	(10 F-25 J) 4,400	(11 F-26 J) 3,050	(12 F-27 J) 13,200
32	Cost per equivalent D. W. T. erected*	SOUTHERN PACIFIC	(24 F-28 H)	(10 F-25 H)	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	SOUTHERN PACIFIC	....	(25 H-25 G) 113,500	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	SOUTHERN PACIFIC	(24 B-28 K) 18,500	(10 B-25 K) 6,800	(11 B-26 K) 5,400	(12 B-27 K) 9,300
35	Yard cost per way	SOUTHERN PACIFIC	(24 D-28 I) 5,100	(10 D-25 I) 5,710	(11 D-26 I) 2,520	(12 D-27 I) 8,550
30	Cost per active way	NORTHERN PACIFIC	(24 F-28 I) 6,100	(10 F-25 I) 4,100	(11 F-26 I) 4,650	(12 F-27 I) ....
31	Cost per ship	NORTHERN PACIFIC	(24 F-28 J) 3,150	(10 F-25 J) 2,670	(11 F-26 J) 1,910	(12 F-27 J) ....
32	Cost per equivalent D. W. T. erected*	NORTHERN PACIFIC	(24 F-28 H)	(10 F-25 H) 42	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	NORTHERN PACIFIC	....	(25 H-25 G) 25,500	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	NORTHERN PACIFIC	(24 B-28 K) 11,800	(10 B-25 K) 7,650	(11 B-26 K) 4,000	(12 B-27 K) ....
35	Yard cost per way	NORTHERN PACIFIC	(24 D-28 I) 2,850	(10 D-25 I) 2,650	(11 D-26 I) 3,120	(12 D-27 I) ....
30	Cost per active way	GREAT LAKES	(24 F-28 I) 3,050	(10 F-25 I) 2,220	(11 F-26 I) 1,550	(12 F-27 I) ....
31	Cost per ship	GREAT LAKES	(24 F-28 J) 1,750	(10 F-25 J) 1,220	(11 F-26 J) 1,020	(12 F-27 J) ....
32	Cost per equivalent D. W. T. erected*	GREAT LAKES	(24 F-28 H)	(10 F-25 H) 29	(11 F-26 H)	(12 F-27 H) ....
33	Amount of work per hull inspector	GREAT LAKES	....	(25 H-25 G) 435,000	(26 H-26 G)	(27 H-27 G) ....
34	Overhead per yard**	GREAT LAKES	(24 B-28 K) 6,130	(10 B-25 K) 2,500	(11 B-26 K) 800	(12 B-27 K) ....
35	Yard cost per way	GREAT LAKES	(24 D-28 I) 1,900	(10 D-25 I) 1,800	(11 D-26 I) 1,340	(12 D-27 I) ....

	ITEM.	District.	Total per yard.	Total per way.	Total per ship.	Overhead per yard.	Yard cost per way.
36	Auditing	NORTHERN ATLANTIC	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) 2,140	(19 B-28 K)	(19 D-28 I) ....
36	Auditing	DELAWARE RIVER	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) $5,700	(19 B-28 K)	(19 D-28 I) ....
36	Auditing	MIDDLE ATLANTIC	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) 3,510	(19 B-28 K)	(19 D-28 I) ....
36	Auditing	SOUTHERN	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) 3,510	(19 B-28 K)	(19 D-28 I) ....
36	Auditing	SOUTHERN PACIFIC	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) 1,230	(19 B-28 K)	(19 D-28 I) ....
36	Auditing	NORTHERN PACIFIC	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) 720	(19 B-28 K)	(19 D-28 I) ....
36	Auditing	GREAT LAKES	(19 F-28 K)	(19 F-28 I)	(19 F-28 J) 625	(19 B-28 K)	(19 D-28 I) ....

NOTE.—(25)a=rivets; r=D. W. T. erected. *(32)=cost of steel ship division per thousand rivets driven (**34)=office expens

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EXPENSE.

TOTAL.	NEW ENGLAND DISTRICT.						GULF DISTRICT.						OREGON DISTRICT.					
	OFFICE.		YARD OR WAREHOUSE.		TOTAL.		OFFICE.		YARD OR WAREHOUSE.		TOTAL.		OFFICE.		YARD OR WAREHOUSE.		TOTAL.	
Salaries. (F)	Number of employees. (A)	Salaries. (B)	Number of employees. (C)	Salaries. (D)	Number of employees. (E)	Salaries. (F)	Number of employees. (A)	Salaries. (B)	Number of employees. (C)	Salaries. (D)	Number of employees. (E)	Salaries. (F)	Number of employees. (A)	Salaries. (B)	Number of employees. (C)	Salaries. (D)	Number of employees. (E)	Salaries. (F)
$32,400	3	$16,200			3	$16,200	2	$12,600			2	$12,600	2	$16,600			2	$16,600
	10	24,540			10	24,540							5	14,880			5	14,880
	5	7,380			5	7,380							3	4,680			3	4,680
17,100	12	17,880			12	17,880	11	12,960			11	12,960	11	18,600			11	18,600
													6	15,320			6	15,320
7,200	12	16,140			12	16,140	9	11,040			9	11,040	10	18,180			10	18,180
105,650																		
35,700	42	67,180	42	$69,626	82	137,106	33	73,446	53	$107,820	91	181,266	22	49,200	54	$152,580	86	201,780
13,600	6	14,520			6	14,520	5	$1,400			5	1,400	6	13,800			6	13,800
14,720							5	$1,760			5	1,760	2	4,200			2	4,200
8,400	3	9,360			3	9,360	3	7,200	2	3,900	5	11,100	2	3,240			2	3,240
													5	13,320			5	13,320
28,140	4	7,680			4	7,680	2	3,600			2	3,600	1	1,800			1	1,800
353,300	97	178,780	45	69,626	137	248,406	76	143,843	55	111,720	130	255,563	70	156,960	64	152,580	134	309,540
129,960	45	86,220	61	100,980	106	187,200	42	62,660	59	103,140	101	165,800	48	91,580	24	61,660	72	153,240
3,600	5	7,500			5	7,500	5	6,480			5	6,480	3	5,300			3	5,300
289,740	22	43,220			22	43,220							5	12,180			5	12,180
													7	16,260			7	16,260
767,060	169	318,720	151	170,606	270	489,326	127	212,830	114	211,860	236	424,690	133	282,280	88	204,240	221	486,520
339,190	91	164,260	49	69,626	134	233,886	76	132,440	55	111,720	125	244,160	64	142,100	64	152,580	128	295,680

DELAWARE RIVER AGENCY YARDS.						NORTHERN ATLANTIC DISTRICT, EXCLUSIVE OF SUBMARINE.						DELAWARE RIVER DISTRICT, TOTAL INCLUDING AGENCY YARDS.						
OFFICE.		YARD OR WAREHOUSE.		TOTAL.		OFFICE.		YARD OR WAREHOUSE.		TOTAL.		OFFICE.		YARD OR WAREHOUSE.		TOTAL.		
Number of employees. (A)	Salaries. (B)	Number of employees. (C)	Salaries. (D)	Number of employees. (E)	Salaries. (F)	Number of employees. (A)	Salaries. (B)	Number of employees. (C)	Salaries. (D)	Number of employees. (E)	Salaries. (F)	Number of employees. (A)	Salaries. (B)	Number of employees. (C)	Salaries. (D)	Number of employees. (E)	Salaries. (F)	
2	$23,200			2	$23,200	2	$14,600			2	$14,600	4	$36,000			4	$36,000	1
						2	5,160			2	5,160	1	2,580			1	2,580	2
						2	3,240			2	3,240	7	24,780			7	24,780	3
6	21,574			6	21,574	16	22,680			16	22,680	22	29,956			22	29,956	4
6	22,320			6	22,320							6	23,760			6	23,760	5
																		6
						4	8,560			4	8,560							7
10	18,180			10	18,180	12	19,720	2	$3,240	11	22,960	5	7,140			5	7,140	8
						{ 22 9	31,000 14,760	57	91,740	22 55	31,000 106,500							9
118	$393,110	160	382,826	278	775,936	17	53,200	92	235,218	109	288,418	61	$1,376	178	$433,460	239	844,776	10
						15	32,640	41	84,824	56	117,464							11
Protection and fabrication.		12	28,200	12	28,200			2	2,400	2	2,400			12	28,200	12	28,200	12
		20	50,710	20	50,710	55	109,430	21	44,520	74	153,940	11	33,220	58	$24,550	69	144,770	13
		1	2,709	1	10,400	16	37,460			16	37,460	5	13,500	3	8,100	8	21,600	14
						4	8,460	29	46,720	33	55,180							15
						1	1,200			1	1,200	5	13,520			5	13,520	16
							23,400	4	10,020	19	33,420					4	10,020	17
154	$382,190	64	$97,640	218	$479,830	187	383,940	244	508,872	431	892,812	131	$30,312	251	$84,330	382	$84,642	18
61	197,650	151	384,740	215	582,390	61	105,230	120	210,910	181	323,166	38	78,510	254	$28,256	292	506,846	19
12	21,450	136	209,316	148	230,766	6	11,400			6	11,400	4	6,102			4	6,102	20
	3,660				3,660	6	11,100			6	11,100	4	6,102			4	6,102	21
						63	126,664			63	126,664	53	117,460			53	117,460	22
																		23
74	222,740	287	594,056	361	816,796	319	627,924	364	725,252	683	1,353,176	226	402,342	446	1,030,886	731	1,813,048	24
64	197,650	151	384,740	215	582,390	132	215,330	233	464,220	365	739,670	120	270,982	193	469,780	313	739,672	25

Number of hull inspectors. (G)	D. W. T. undelivered. (L)	Number of hull inspectors. (G)	Construction progress. (H)	Number of active ways. (I)	Number of ships under construction. (J)	D. W. T. undelivered. (L)	Number of hull inspectors. (G)	Construction progress. (H)	Number of active ways. (I)	Number of ships under construction. (J)	D. W. T. undelivered. (L)	Number of hull inspectors. (G)	Construction progress. (H)	Number of active ways. (I)	Number of ships under construction. (J)	D. W. T. undelivered. (L)	Number of hull inspectors. (G)	Construction progress. (H)	Number of active ways. (I)	Number of ships under construction. (J)	D. W. T. undelivered. (L)	Number of yards. (K)	D. W. T. undelivered. (L)	
		R—T																						15
							R—T																	16
		13	R—T	29	41	14	121,760	24		41	64	10	34,800	18		29	70	14	257,764						17
		13		29	41	14	121,760	24		41	64	10	34,800	18		29	70	14	257,764	53		62	77	2	18

Custody and Inventory.		Salaries, except custody and inventory. (M)	Work under way expressed in dollars. (N)	Per cent complete. (O)	Custody and Inventory.		Salaries, except custody and inventory. (M)	Work under way expressed in dollars. (N)	Per cent complete. (O)	Custody and Inventory.		Salaries, except custody and inventory. (M)	Work under way expressed in dollars. (N)	Per cent complete. (O)	Custody and Inventory.		Salaries, except custody and inventory. (M)	Work under way expressed in dollars. (N)	Per cent complete. (O)	Custody and Inventory.		Salaries, except custody and inventory. (M)	Work under way expressed in dollars. (N)	Per cent complete. (O)	Custody and Inventory.	
Number of employees. (P)	Salaries. (Q)				Number of employees. (P)	Salaries. (Q)				Number of employees. (P)	Salaries. (Q)				Number of employees. (P)	Salaries. (Q)				Number of employees. (P)	Salaries. (Q)				Number of employees. (P)	Salaries. (Q)
																									29
		$14,520	$1,297,134	100			$11,400	$2,325,400	83			$13,800	$1,144,080	98											

Concrete.	Total.	Steel.	Wood.	Concrete.	Total.	Steel.	Wood.	Concrete.	Total.	Steel.	Wood.	Concrete.	Total.	Steel.	Wood.	Concrete.	Total.	Steel.	Wood.	Concrete.	Total.	Steel.	Wood.	Concrete.	
(12 F–27 I)	(24 F–28 I) $8,000	(12 F–28 I)	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) $5,560	(12 F–28 I)	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) $10,200	(12 F–28 I) $6,850	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 6,150	(12 F–28 I)	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 8,500	(12 F–28 I) 6,500	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 8,500	(12 F–28 I) 6,500	(12 F–28 I)	(12 F–27 I)	30
(12 F–27 I)	(24 F–28 I) 6,700	(12 F–28 I)	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 3,850	(12 F–28 I)	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 4,225	(12 F–28 I) 2,850	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 5,600	(12 F–28 I)	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 5,800	(12 F–28 I) 4,000	(12 F–28 I)	(12 F–27 I)	(24 F–28 I) 5,800	(12 F–28 I) 4,000	(12 F–28 I)	(12 F–27 I)	31
(12 I–27 H)	(24 F–28 I) 11,700	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 4,800	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 7,344	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 72,500	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 10,600	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 10,600	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	32
(12 H–27 G)	(24 H–28 K) 15,244	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 10,200	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 10,300	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 98,800	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 39,800	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 39,800	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	33
(12 D–27 I)	(24 D–28 I) 11,700	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 4,800	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 2,640	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 5,250	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 4,950	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 5,330	(12 D–28 I) 3,930	(12 D–28 I)	(12 D–27 I)	34
(12 I–27 H)	(24 F–28 I) 8,000	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 5,560	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 4,225	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 5,600	(12 F–28 I)	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 5,800	(12 F–28 I) 4,000	(12 F–28 I)	(12 F–27 H)	(24 F–28 I) 5,800	(12 F–28 I) 4,000	(12 F–28 I)	(12 F–27 H)	35
(12 H–27 G)	(24 H–28 K) 15,244	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 10,200	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 10,300	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 98,800	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 39,800	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	(24 H–28 K) 39,800	(12 H–28 K)	(12 H–28 K)	(12 H–27 G)	36
(12 D–27 I)	(24 D–28 I) 11,700	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 4,800	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 2,640	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 5,250	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 4,950	(12 D–28 I)	(12 D–28 I)	(12 D–27 I)	(24 D–28 I) 5,330	(12 D–28 I) 3,930	(12 D–28 I)	(12 D–27 I)	

Diesel.	Yard cost per way.	Total per yard.	Total per way.	Total per ship.	Overhead per yard.	Yard cost per way.	Total per yard.	Total per way.	Total per ship.	Overhead per yard.	Yard cost per way.	Total per yard.	Total per way.	Total per ship.	Overhead per yard.	Yard cost per way.	Total per yard.	Total per way.	Total per ship.	Overhead per yard.	Yard cost per way.	Total per yard.	Total per way.	Total per ship.	Overhead per yard.	Yard cost per way.
(12 H–28 K)	(10 D–28 I)	(12 F–28 K)	(12 F–28 I)	(12 F–28 I) $4,150	(12 D–28 K)	(10 D–28 I)	(12 F–28 K)	(12 F–28 I)	(12 F–28 I) $2,600	(12 D–28 K)	(10 D–28 I)	(12 F–28 K)	(12 F–28 I)	(12 F–28 I)	(12 D–28 K)	(10 D–28 I)	(12 F–28 K)	(12 F–28 I)	(12 F–28 I)	(12 D–28 K)	(10 D–28 I)	(12 F–28 K)	(12 F–28 I)	(12 F–28 I) 2,300	(12 D–28 K)	(10 D–28 I)

(**H) million square feet per yard.

Exhibit 4, Part 1.

Recapitulation of construction program as of Mar. 31, 1919 (all classes).

Class.	Number of ways for Emergency Fleet Corporation complete.	Contracted for.		Delivered.		Being fitted out in wet basin.		On ways		On ways under suspension or canceled.		Balance work not started.		Under suspension.		Balance to be constructed.	
		Number.	Deadweight tons.	Number.	Deadweight tons.	Number.	Deadweight tons.	Number.	Deadweight tons.	Number.	Deadweight tons.	Number.	Deadweight tons.	Number.	Deadweight tons.	Number.	Deadweight tons.
Requisitioned steel	32	391	2,724,981	312	2,034,561	24	190,970	28	253,250	.....	.....	27	246,200	7	77,500	20	168,700
Contract steel	440	1,633	10,870,105	219	1,348,275	205	1,218,583	380	2,561,798	.....	.....	829	5,741,449	258	1,710,850	571	4,030,599
Contract wood	446	917	2,737,100	139	491,900	240	771,100	261	669,250	79	256,500	198	548,350	260	804,850	17	A
Contract concrete	11	22	148,500	.....	.....	1	3,000	11	70,500	.....	.....	10	75,000	8	60,000	2	15,000
Total	929	2,963	16,480,686	670	3,874,736	470	2,183,653	680	3,554,798	79	256,500	1,064	6,610,999	533	2,653,200	610	4,214,299

EXHIBIT 4, PART 1—Continued.

Recapitulation of construction program as of Mar. 31, 1919 (all classes)—Continued.

Class.	Cost.					Estimated.		Estimated.		Net total cost, estimated cost less amount saved due to cancellation.
	Contract.	Estimated.								
		Machinery and installation.	Additional.	Changes due to adjustments of contract.	Total.	Cost per deadweight ton.	Cost per deadweight ton of cancellation.	Cost of cancellation.	Total savings account of cancellation.	
Requisitioned steel	$400,552,002		$135,063,821		$535,615,823	$196.56	$47.72	$3,698,437	$11,095,313	$524,520,510
Contract steel	2,145,452,104		219,084,636	$5,583,217	2,370,119,957	[1] 215.11	[1] 52.57	93,787,041	281,361,110	2,088,758,847
Contract wood	328,367,090	$136,375,000	99,695,331		564,437,421	[1] 199.46	[1] 72.07	65,653,075	124,467,390	439,970,031
Contract concrete	7,840,000	10,960,000	4,340,000		23,140,000	155.83	19.33	1,160,000	8,120,000	15,020,000
Total	2,882,211,196	147,335,000	458,183,788	5,583,217	3,493,313,201	[1] 208.88	[1] 57.32	164,298,553	425,043,813	3,068,269,388
Plus net total cost of investment in wood yards										13,129,458
Grand total										3,081,398,846

[1] The cost of tugs and barges has been eliminated in figuring the average cost per deadweight ton.

Exhibit 4, Part 2.

Résumé of wood-ship program by status of construction as of Mar. 31, 1919.

Status of construction.	No.	Dead-weight tons.	Esti-mated total cost.	Cost per dead-weight tons.	Cost of cancella-tion.	Estimated saving account cancella-tion or conver-sion.	Estimated net total cost.	Cost per dead-weight tons.
COMPLETE SHIPS (CARGO).								
Delivered	138	491,900	$95,351,442	$193.84			$95,351,442	$193.84
Being outfitted	155	564,450	112,608,928	199.50			112,608,928	199.50
On ways	25	105,700	20,463,621	193.60			20,463,621	193.60
Canceled or suspended	211	793,700	161,055,868	202.92	$63,300,000	$97,755,868	63,300,000	79.75
Total	529	1,955,750	389,479,859	199.15	63,300,000	97,755,868	291,723,991	149.16
FINISHED HULLS (CARGO).								
[Machinery not to be installed.								
In wet basin	54	189,000	37,800,000	200.00		5,400,000	32,400,000	171.43
On ways	62	219,400	44,065,000	200.84		6,200,000	37,865,000	172.58
Total	116	408,400	81,865,000	200.45		11,600,000	70,265,000	172.04
CONVERTED BARGES (CARGO).								
In wet basin	5	17,650	3,362,439	190.51		500,000	2,862,439	162.18
On ways	66	232,150	47,503,184	204.62		6,542,858	40,960,326	176.43
Canceled or suspended	1	3,650	667,439	182.86	300,000	367,439	300,000	82.19
Total	72	253,450	51,533,062	203.33	300,000	7,410,297	44,122,765	174.52
SAILING VESSELS (CARGO).								
On ways	10	37,000	6,600,000	178.39		1,000,000	5,600,000	151.35
BARGES.								
On ways	30	75,000	5,788,000	77.18			5,788,000	77.18
Canceled or suspended	3	7,500	570,000	76.00	57,000	513,000	57,000	7.60
Total	33	82,500	6,358,000	77.07	57,000	513,000	5,845,000	70.85
TUGS (OCEAN).								
Delivered	1		241,100				241,100	
Being outfitted	15		3,501,700				3,501,700	
On ways	22		5,218,600				5,218,600	
Canceled or suspended	17		4,092,700		973,175	3,119,525	973,175	
Balance program	6		1,428,600				1,428,600	
Total	61		14,482,700		973,175	3,119,525	11,363,175	
TUGS (HARBOR).								
Being outfitted	11		1,700,000				1,700,000	
On ways	46		6,722,200				6,722,200	
Canceled or suspended	28		4,091,600		1,022,900	3,068,700	1,022,900	
Balance program	11		1,605,000				1,605,000	
Total	96		14,118,800		1,022,900	3,068,700	11,050,100	
TOTAL.								
Delivered	139	491,900	95,592,542				95,592,542	
Being outfitted	240	771,100	158,973,067			5,900,000	153,073,067	
On ways	261	669,250	136,360,605			13,742,858	122,617,747	
Canceled or suspended	260	804,850	170,477,607		65,653,075	104,824,532	65,653,075	
Balance program	17		3,033,600				3,033,600	
Grand total	917	2,737,100	564,437,421				564,437,421	
Less savings on suspended or canceled contracts, $104,824,532; savings account conversion, $19,642,858							124,467,390	
Cost of wood ship construction							439,970,031	
Plus net total cost of investment in yards							13,129,458	
Net total cost							453,099,489	

Wood ship program showing status of construction as of Mar. 31, 1919.

District.	Dead-weight tons per ship.	No.	Dead-weight tons.	Esti-mated total cost.	Cost per dead-weight ton.	Cost of cancel-lation.	Esti-mated saving account cancel-lation.	Esti-mated net total cost.	Cost per dead-weight ton.
COMPLETE SHIPS (CARGO).									
DELIVERED.									
New England	3,500	5	17,500	$3,875,000	$221.43			$3,875,000	$221.43
Northern Atlantic	3,500	13	45,500	10,075,000	221.43			10,075,000	221.43
Southern	3,500	22	77,000	17,050,000	221.43			17,050,000	221.43
Gulf	3,500	2	7,000	1,550,000	221.43			1,550,000	221.43
Do	4,700	2	9,400	2,081,442	221.43			2,081,442	221.43
Southern Pacific	3,500	17	59,500	10,880,000	182.86			10,880,000	182.86
Northern Pacific	3,500	26	91,000	16,640,000	182.86			16,640,000	182.86
Do	4,000	7	28,000	4,830,000	172.50			4,830,000	172.50
Oregon	3,500	35	122,500	22,400,000	182.86			22,400,000	182.86
Do	4,000	8	32,000	5,520,000	172.50			5,520,000	172.50
Great Lakes	2,500	1	2,500	450,000	180.00			450,000	180.00
Total		138	491,900	95,351,442	193.84			95,351,442	193.84
BEING OUTFITTED.									
New England	3,500	14	49,000	10,850,000	221.43			10,850,000	221.43
Northern Atlantic	3,500	10	35,000	7,750,000	221.43			7,750,000	221.43
Middle Atlantic	3,500	2	7,000	1,550,000	221.43			1,550,000	221.43
Southern	3,500	25	87,500	19,375,000	221.43			19,375,000	221.43
Gulf	3,500	14	49,000	10,850,000	221.43			10,850,000	221.43
Do	4,700	9	42,300	9,366,489	221.43			9,366,489	221.43
Southern Pacific	3,500	8	28,000	5,120,000	182.86			5,120,000	182.86
Northern Pacific	3,500	21	73,500	13,440,000	182.86			13,440,000	182.86
Do	3,650	1	3,650	667,439	182.86			667,439	182.86
Do	4,000	10	40,000	6,900,000	172.50			6,900,000	172.50
Oregon	3,500	31	108,500	19,840,000	182.86			19,840,000	182.86
Do	4,000	8	32,000	5,520,000	172.50			5,520,000	172.50
Do	4,500	2	9,000	1,380,000	153.33			1,380,000	153.33
Total		155	564,450	112,608,928	199.50			112,608,928	199.50
ON WAYS.									
Northern Atlantic	3,500	1	3,500	775,000	221.43			775,000	221.43
Southern	3,500	5	17,500	3,875,000	221.43			3,875,000	221.43
Gulf	4,700	1	4,700	1,040,721	221.43			1,040,721	221.43
Do	5,000	6	30,000	6,642,900	221.43			6,642,900	221.43
Northern Pacific	3,500	1	3,500	640,000	182.86			640,000	182.86
Do	4,000	2	8,000	1,380,000	172.50			1,380,000	172.50
Oregon	3,500	2	7,000	1,280,000	182.86			1,280,000	182.86
Do	4,500	7	31,500	4,830,000	153.33			4,830,000	153.33
Total		25	105,700	20,463,621	193.60			20,463,621	193.60
CANCELED OR SUSPENDED.									
New England	3,500	7	24,500	5,425,000	221.43	$2,100,000	$3,325,000	2,100,000	85.71
North Atlantic	3,500	11	38,500	8,525,000	221.43	3,300,000	5,225,000	3,300,000	85.71
Middle Atlantic	3,500	19	66,500	14,725,000	221.43	5,700,000	9,025,000	5,700,000	85.71
Southern	3,500	46	161,000	35,650,000	221.43	13,800,000	21,850,000	13,800,000	85.71
Do	5,000	6	30,000	6,642,900	221.43	1,800,000	4,842,900	1,800,000	60.00
Gulf	3,500	29	101,500	22,475,000	221.43	8,700,000	13,775,000	8,700,000	85.71
Do	4,600	6	27,600	6,111,468	221.43	1,800,000	4,311,468	1,800,000	65.22
Do	5,000	10	50,000	11,071,500	221.43	3,000,000	8,071,500	3,000,000	60.00
Southern Pacific	3,500	10	35,000	6,400,000	182.86	3,000,000	3,400,000	3,000,000	85.71
Northern Pacific	3,500	17	59,500	10,880,000	182.86	5,100,000	5,780,000	5,100,000	85.71
Do	4,100	4	16,400	2,760,000	168.29	1,200,000	1,560,000	1,200,000	73.17
Do	4,800	4	19,200	2,760,000	143.75	1,200,000	1,560,000	1,200,000	62.50
Do	5,000	4	20,000	2,760,000	138.00	1,200,000	1,560,000	1,200,000	60.00
Oregon	3,500	27	94,500	17,280,000	182.86	8,100,000	9,180,000	8,100,000	85.71
Do	4,500	11	49,500	7,590,000	153.33	3,300,000	4,290,000	3,300,000	66.67
Total		211	793,700	161,055,868	202.92	63,300,000	97,755,868	63,300,000	79.75

Wood ship program showing status of construction as of Mar. 31, 1919—Continued.

District.	Dead-weight tons per ship.	No.	Dead-weight tons.	Esti-mated total cost.	Cost per dead-weight ton.	Cost of cancel-lation.	Esti-mated saving account cancel-lation.	Esti-mated net total cost.	Cost per dead-weight ton.
FINISHED HULLS (CARGO).									
IN WET BASIN.									
New England	3,500	2	7,000	$1,550,000	$221.43		[1] $200,000	$1,350,000	$192.86
Northern Atlantic	3,500	6	21,000	4,650,000	221.43		[1] 600,000	4,050,000	192.86
Middle Atlantic	3,500	2	7,000	1,550,000	221.43		[1] 200,000	1,350,000	192.86
Southern	3,500	4	14,000	3,100,000	221.43		[1] 400,000	2,700,000	192.86
Gulf	3,500	10	35,000	7,750,000	221.43		[1] 1,000,000	6,750,000	192.86
Southern Pacific	3,500	4	14,000	2,560,000	182.86		[1] 400,000	2,160,000	154.29
Northern Pacific	3,500	19	66,500	12,160,000	182.86		[1] 1,900,000	10,260,000	154.29
Oregon	3,500	7	24,500	4,480,000	182.86		[1] 700,000	3,780,000	154.29
Total		54	189,000	37,800,000	200.00		[1] 5,400,000	32,400,000	171.49
ON WAYS.									
New England	3,500	8	28,000	6,200,000	221.43		[1] 800,000	5,400,000	192.86
Northern Atlantic	3,500	6	21,000	4,650,000	221.43		[1] 600,000	4,050,000	192.86
Middle Atlantic	3,500	5	17,500	3,875,000	221.43		[1] 500,000	3,375,000	192.86
Southern	3,500	6	21,000	4,650,000	221.43		[1] 600,000	4,050,000	192.86
Gulf	3,500	6	21,000	4,650,000	221.43		[1] 600,000	4,050,000	192.86
Southern Pacific	3,500	6	21,000	3,840,000	182.86		[1] 600,000	3,240,000	154.29
Northern Pacific	3,500	16	56,000	10,240,000	182.86		[1] 1,600,000	8,640,000	154.29
Do	4,100	4	16,400	2,760,000	168.21		[1] 400,000	2,360,000	143.96
Oregon	3,500	5	17,500	3,200,000	182.86		[1] 500,000	2,700,000	154.29
Total		62	219,400	44,065,000	200.84		[1] 6,200,000	37,865,000	172.58
CONVERTED BARGES (CARGO).									
BEING OUTFITTED.									
New England	3,500	1	3,500	775,000	221.43		[2] 100,000	675,000	192.86
Southern Pacific	3,500	3	10,500	1,920,000	182.86		[2] 300,000	1,620,000	154.29
Northern Pacific	3,650	1	3,650	667,439	182.86		[2] 100,000	567,439	155.46
Total		5	17,650	3,362,439	190.51		[2] 500,000	2,862,439	162.18
ON WAYS.									
New England	3,500	5	17,500	3,875,000	221.43		[2] 500,000	3,375,000	192.86
Northern Atlantic	1,500	1	1,500	332,145	221.43		[2] 42,858	289,287	192.86
Do	3,500	5	17,500	3,875,000	221.43		[2] 500,000	3,375,000	192.86
Middle Atlantic	3,500	5	17,500	3,875,000	221.43		[2] 500,000	3,375,000	192.86
Southern	3,500	5	17,500	3,875,000	221.43		[2] 500,000	3,375,000	192.86
Gulf	3,500	17	59,500	13,175,000	221.43		[2] 1,700,000	11,475,000	192.86
Southern Pacific	3,500	6	21,000	3,840,000	182.86		[2] 600,000	3,240,000	154.29
Northern Pacific	3,500	12	42,000	7,680,000	182.86		[2] 1,200,000	6,480,000	154.29
Do	3,650	1	3,650	667,439	182.86		[2] 100,000	567,439	158.23
Do	5,000	2	10,000	1,828,600	182.86		[2] 200,000	1,628,600	162.86
Oregon	3,500	7	24,500	4,480,000	182.86		[2] 700,000	3,780,000	154.29
Total		66	232,150	47,503,184	204.62		[2] 6,542,858	40,960,326	176.43
CANCELED OR SUSPENDED.									
Northern Pacific	3,650	1	3,650	667,439	182.86	$300,000	[2] 367,439	300,000	82.19

[1] Assuming that $100,000 will be the average amount saved account of conversion from cargo to finished hulls.

[2] Assuming that $100,000 will be the average amount saved account of conversion from cargo to converted barges.

Wood ship program showing status of construction as of Mar. 31, 1919—Continued.

District.	Dead-weight tons per ship.	No.	Dead-weight tons.	Estimated total cost.	Cost per dead-weight ton.	Cost of cancellation.	Estimated saving account cancellation.	Estimated net total cost.	Cost per dead-weight ton.
SAILING VESSELS (CARGO).									
ON WAYS.									
Southern Pacific	3,500	6	21,000	$3,840,000	$182.86		[1] $600,000	$3,240,000	$154.29
Oregon	4,000	4	16,000	2,760,000	172.50		[1] 400,000	2,360,000	147.51
Total		10	37,000	6,600,000	178.39		[1] 1,000,000	5,600,000	151.37
BARGES.									
ON WAYS.									
New England	2,500	10	25,000	1,900,000	76.00			1,900,000	76.00
Do	3,500	1	3,500	221,000	63.14			221,000	63.14
Northern Atlantic	2,500	1	2,500	190,000	76.00			190,000	76.00
Middle Atlantic	2,500	7	17,500	1,330,000	76.00			1,330,000	76.00
Southern	2,500	4	10,000	778,000	77.80			778,000	77.80
Gulf	2,000	2	4,000	392,000	98.00			392,000	98.00
Do	2,500	5	12,500	977,000	78.16			977,000	78.16
Total		30	75,000	5,788,000	77.18			5,788,000	77.18
CANCELED OR SUSPENDED.									
New England	2,500	1	2,500	190,000	76.00	$19,000	171,000	19,000	7.60
Northern Atlantic	2,500	1	2,500	190,000	76.00	19,000	171,000	19,000	7.60
Southern	2,500	1	2,500	190,000	76.00	19,000	171,000	19,000	7.60
Total		3	7,500	570,000	76.00	57,000	513,000	57,000	7.60
TUGS (OCEAN).									
DELIVERED.									
North Atlantic		1		241,100				241,100	
BEING OUTFITTED.									
New England		6		1,446,600				1,446,600	
Middle Atlantic		4		884,400				884,400	
Southern		4		979,600				979,600	
Great Lakes		1		191,100				191,100	
Total		15		3,501,700				3,501,700	
ON WAYS.									
New England		5		1,205 500				1,205,500	
Middle Atlantic		4		884,400				884,400	
Southern		3		734,700				734,700	
Southern Pacific		4		956,400				956,400	
Great Lakes		6		1,437,600				1,437,600	
Total		22		5,218,600				5,218,600	
UNDER SUSPENSION OR CANCELLED.									
Northern Atlantic		2		482,200		120 550	361,650	120,550	
Middle Atlantic		12		2,893 200		723,300	2,169,909	723,300	
Southern Pacific		3		717,300		129,325	587,975	129,325	
Total		17		4,092,700		973,175	3,119,525	973,175	
BALANCE PROGRAM.									
Great Lakes		6		1,428,600				1,428,600	

[1] Assuming that $100,000 will be the average amount saved account of conversion from cargo to sailing vessels.

Wood ship program showing status of construction as of Mar. 31, 1919—Continued.

District.	Dead-weight tons per ship.	No.	Dead-weight tons.	Esti-mated total cost.	Cost per dead-weight ton.	Cost of cancel-lation.	Esti-mated saving account cancel-lation.	Esti-mated net total cost.	Cost per dead-weight ton.
TUGS (HARBOR).									
BEING OUTFITTED.									
Great Lakes		11		$1,700,000				$1,700,000	
ON WAYS.									
Northern Atlantic		12		1,794,000				1,794,000	
Middle Atlantic		13		1,879,200				1,879,200	
Southern		4		584,000				584,000	
Great Lakes		17		2,465,000				2,465,000	
Total		46		6,722,200				6,722,200	
CANCELED OR SUSPENDED.									
New England		2		300,000		$75,000	$225,000	75,000	
North Atlantic		11		1,639,400		409,850	1,229,550	409,850	
Middle Atlantic		7		982,200		245,550	736,650	245,550	
Southern		6		880,000		220,000	660,000	220,000	
Great Lakes		2		290,000		72,500	217,500	72,500	
Total		28		4,091,600		1,022,900	3,068,700	1,022,900	
BALANCE PROGRAM.									
New England		2		300,000				300,000	
Great Lakes		9		1,305,000				1,305,000	
Total		11		1,605,000				1,605,000	

Recapitulation of contract steel-ship program as of Mar. 31, 1919.

District.	Number of ways.	Contract.		Delivered.		Being filled out.		On ways.		Balance work not started.		Under suspension.		Balance to be completed.		Cost.			Cost per dead-weight ton.	Cost per dead-weight ton of vessels finished.	Estimated.		Net total cost.
																Estimated.							
		Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Contract.	Additional.	Changes due to adjustment of contract.	Total.			Cost of cancellation.	Total to right account of cancellation.	Estimated cost less amount saved due to cancellation.
DISTRICTS.																							
Northern Atlantic	98	310	1,574,580	13	108,233	16	200,222	21	260,400	224	898,809	27	28,200	121	675,649	$308,419,630	$35,597,002		$344,016,632	$197.32	$193.74	$4,227,860	$12,903,843	$321,628,285
Delaware River	50	137	963,253			1	7,500	19	96,213	26	209,300			45	313,013	96,976,400	4,653,100		101,629,500	277.49		205,679.79		101,629,500
Delaware River repairs	42	240	1,121,000	42	76,099	14	127,000	10	172,000	130	1,224,500	13	119,000	209	1,640,599	461,417,300	20,772,000		482,189,300	293.75		23,579,783	79,799,983	281,877,343
Kills Atlantic coast	25	45	231,300	2	16,100	4	34,000	22	218,400	37	414,800	10	116,000	73	783,200	190,142,700	16,045,400		206,188,100	263.25		9,618,946	19,236,800	173,201,247
Southern Atlantic	24	45	231,300			4	34,000	22	218,400	37	414,800	10	116,000	73	783,200	190,142,700	16,045,400		206,188,100	263.25		9,618,946	19,236,800	173,201,247
Northern Pacific	53	265	1,413,000	34	276,000	29	265,400	30	340,000	99	1,000,000	39	334,000	197	1,939,400	503,198,400	23,307,000		526,505,400	271.54		13,571,443	40,715,000	485,790,400
Southern Pacific	67	277	2,519,000	50	413,300	26	219,000	41	372,700	117	1,021,200	61	534,500	256	2,547,200	644,219,000	24,291,700		668,510,700	262.46		26,245,117	78,735,350	589,775,350
Gulf Lakes	92	268	1,556,000	121	571,450	71	353,800	52	252,000	228	1,417,100	53	88,000	404	2,110,900	534,150,000	16,097,615	$1,653,227	551,900,842	261.49	$261.49	8,479,289	10,427,666	541,328,176
Total	440	1,599	10,134,333	319	1,543,273	203	1,241,322	280	2,564,796	1,078	7,845,809	238	1,718,500	2,317	3,744,749	3,904,626,514	219,004,626	5,653,217	4,219,286,357	1,216.02	1,213.11	93,787,641	281,361,110	3,037,353,297
Inactive	5	28	243,650							5	243,650			33	243,650	43,022,750			43,022,750	176.60				43,022,750
Balance	5	28	243,650							5	243,650			33	243,650	43,022,750			43,022,750	176.60				43,022,750
Total	445	1,627	10,378,195	319	1,543,273	203	1,241,322	280	2,564,796	1,083	8,089,459	238	1,718,500	2,350	3,988,399	3,947,649,264	219,004,626	5,653,217	4,272,309,107	1,216.11	1,213.11	93,787,641	281,361,110	3,080,376,047
CANAL.																							
Northern River	228	1,523,740	13	108,233	47	290,222	61	453,325	114	673,049	3	28,200	111	642,360	279,644,830	32,281,453		298,126,283	195.65	193.74	1,916,833	6,649,977	292,813,903
Delaware River	12	196,833						3	37,013	12	83,800			12	83,800	25,161,000	1,644,800		26,805,800	320.42		1,861,616		26,805,800
Great Lakes harbors	176	1,130,907	42	54,767	11	117,000	18	276,400	95	771,100	20	190,000	144	961,500	240,482,830	29,636,653		270,119,483	280.93		18,901,363	26,750,000	243,369,483
Kills Atlantic	29	230	2,000	2	16,100	2	17,000	19	179,200	5	51,000	1	10,000	29	257,300	66,981,700	3,961,540		70,943,240	275.74		4,966,026	8,915,200	62,028,040
Atlantic coast	41	275	2,000	2	16,100	4	34,000	22	218,400	37	414,800	10	116,000	73	783,200	190,142,700	16,045,400		206,188,100	263.25		9,618,946	19,236,800	173,201,247
Northern Pacific	147	1,413,000	34	276,000	29	265,400	30	340,000	99	1,000,000	39	334,000	197	1,939,400	503,198,400	23,307,000		526,505,400	271.54		13,571,443	40,715,000	485,790,400
Southern Pacific	237	2,519,000	50	413,300	26	219,000	41	372,700	117	1,021,200	61	534,500	256	2,547,200	644,219,000	24,291,700		668,510,700	262.46		26,245,117	78,735,350	589,775,350
Gulf Lakes	446	1,556,000	121	571,450	71	353,800	52	252,000	228	1,417,100	53	88,000	404	2,110,900	534,150,000	16,097,615	$1,653,227	551,900,842	261.49	$261.49	8,479,289	10,427,666	541,328,176
Noncontiguous	30	243,650						5	243,650	30	243,650			33	243,650	43,022,750			43,022,750	176.60				43,022,750
Balance	5	28	243,650							5	243,650			33	243,650	43,022,750			43,022,750	176.60				43,022,750
Total	1,319	9,023,551	262	1,309,376	181	1,142,322	268	2,127,696	672	4,670,849	157	1,320,250	1,443	3,723,899	1,651,027,207	170,718,718	1,653,227	1,819,387,330	488.63	193.74	83,784,587	186,292,711	2,128,094,618
TANKER.																							
Northern Atlantic	6	54,000			1	7,500	3	27,300	3	27,300			3	27,300	12,333,000	924,000		13,179,040	241.37				13,179,040
Delaware River	6	45,000					4	36,000	1	9,000			5	45,000	12,165,000	721,000		12,886,000	286.12				12,165,000
Kills Atlantic	10	90,000	2	16,100	3	27,300	7	63,300	27	267,400	3	27,300	42	378,400	6,702,000	1,046,000		7,748,000	86.02		1,005,915	13,722,443	21,470,443
Southern	19	171,000					3	15,000	8	66,000	3	27,300	2	27,300	1,262,000	1,046,000		2,308,000	169.16		69,114	2,230,443	2,308,000
Gulf Lakes	29	261,000					7	51,100	17	153,000	5	45,000	29	261,000	29,964,000	2,816,000		32,780,000	125.59		1,080,029	15,952,886	48,732,886
Total	70	621,000	2	16,100	5	41,800	24	192,400	56	522,700	14	126,900	81	739,000	62,426,000	6,553,000		68,979,040	93.34		2,155,058	32,105,772	97,855,369
Southern Pacific	8	75,200	3	28,200	2	18,800							2	18,800	12,453,200	2,498,000		14,952,200	397.74				19,823,400
TUGBOAT.																							
Delaware River	3	39,000					3	39,000							12,750,000	953,300		13,703,300	359.83				13,703,300
Delaware River repairs	11	99,000					11	99,000	55	495,000	55	495,000			12,750,000	953,300		13,703,300	359.83	38.56	16,679,573	50,033,123	70,412,423
Kills Atlantic	2	27,000					2	27,000							6,871,000	952,000		7,823,000	364.09				7,823,000
Total	16	165,000					16	165,000	55	495,000	55	495,000			19,621,000	1,905,300		21,526,300	361.05	38.56	16,679,573	50,033,123	91,647,423
PASSENGER AND CARGO.																							
Northern River	12	162,000					12	162,000					13	162,000	42,313,000	4,142,200		46,455,200	286.76				46,455,200
Delaware River service	23	191,000					23	191,000					23	191,000	41,500,000	11,370,514		52,870,514	276.81				52,870,514
Kills Atlantic	8	84,000			2	20,000	6	77,000					8	97,000	33,000,000	2,800,000		35,800,000	368.12				35,995,000
Total	43	437,000			2	20,000	41	430,000					43	450,000	116,813,000	18,312,714		135,125,714	300.28				135,320,514
BARGE.																							
Northern District	17	26,400			2	9,301	8	20,100					8	20,100	2,764,101	246,795		3,010,896	99.66				3,010,896
TUGS (OCEAN).																							
Northern Atlantic	7	7		2		5		14		45		34		7	26,219,040	2,381,915		28,600,955	22,795,216		2,811,833	5,441,005	34,278,903
Gulf Lakes	15	15				3		14		15		13		17	16,403,000	962,700		17,365,700	12,995,776		2,367,293	3,170,871	20,536,571
Total	22	22		2		8		28		60		47		24	42,622,040	3,344,615		45,966,655	35,790,992		5,179,126	8,611,876	54,815,474
TUGS (HARBOR).																							
Southern	4	4		2		1		3						2	906,000	139,470		1,045,470					1,045,470
Gulf Lakes	2	2						2						2	297,000	51,150		348,150					348,150
Total	6	6		2		1		5						2	1,203,000	190,620		1,393,620					1,393,620
Grand total	1,513	10,439,185	319	1,345,273	395	1,241,322	572	2,741,493	856	5,716,859	371	4,020,509	2,814	8,054,856	3,947,649,264	219,004,626	5,653,217	4,272,309,107	1,216.11	1,213.11	93,787,641	281,361,110	3,080,376,047

Estimated cost of cancellation, 2½ per cent.

* The cost of ten such large ships has been eliminated in figuring the average cost per dead-weight ton

EXHIBIT 4, PART 3—Continued.

Status of contract steel ship program as of Mar 31, 1919.

Company.	Location.	Number of ways for Emergency Fleet Corporation, complete.	Contract No.	Contract Date.	Contract Kind.	Type of ship.	Dead-weight tons per ship.	Hull numbers.
NORTHERN ATLANTIC DISTRICT.								
Atlantic Corporation	Portsmouth, N. H.	8	140	Dec. 1, 1917	Lump sum	Cargo	8,800	967-976, inclusive
Baker Shipyard (Inc.)	Port Jefferson, Long Island, N. Y.	2	90	Nov. 8, 1917	do	do	5,000	771-774, inclusive
Do	do	2	214	Mar. 27, 1918	do	Tug (O)		1300-1301, inclusive
Do	do		404	July 8, 1918	do	do		3447-3448
Do	do		404	do	do	do		3449-3450
Do	do		404	do	do	do		3451-3452
Bethlehem Shipbuilding Corporation (Ltd.)	Fore River, Quincy, Mass.	3	151	Dec. 31, 1917	Cost plus	Tanker	9,100	1165-1167, inclusive
Do	do		209	Apr. 20, 1918	do	do	9,100	1670-1672, inclusive
Do	Elizabethport, N. J.	4	184	Dec. 31, 1917	do	Tug (O)		1169-1172, inclusive
Do	do		184 O. E.	Feb. 28, 1918	do	do		1315-1325, inclusive
Do	do		312	May 15, 1918	do	do		1907-1916, inclusive
Downey Shipbuilding Corporation	[illegible], Richmond Borough, N. Y.	4	30	July 20, 1917	Lump sum	Cargo	7,500	216-225, inclusive
Federal Shipbuilding Co.	Hackensack River, Newark, N. J.	12	93	Oct. 13, 1917	do	do	9,600	955-964, inclusive
Do	do		219	Mar. 28, 1918	do	do	9,600	1423-1442, inclusive
Gahagan, W. H. (Inc.)	Greenport, Long Island, N. Y.		412	Aug. 14, 1918	do	Tug (O)		2240-2249, inclusive
Gas Engine & Power Co. and Chas. L. Seabury, consolidated	Morris Heights, N. Y.							
Groton Iron Works	Groton, Conn.	8	37	Aug. 11, 1917	do	Cargo	4,600	372-377, inclusive
Do	do		221	Apr. 20, 1918	do	do	9,400	1512-1517, inclusive
Newburgh Shipyards (Inc.)	Newburgh, N. Y.	4	91	Oct. 20, 1917	Cost plus	do	9,000	780-783, inclusive
Do	do		91 (sup.)	Mar. 16, 1918	do	do	9,000	1365-1372, inclusive
Do	do		242	July 11, 1918	do	Tug (O)		2169-2171, inclusive
Do	do		244 (pending)	Sept. 14, 1918	do	Cargo	9,000	2433-2434
New Jersey Dry Dock & Transportation Co	Elizabethport, N. J.		290	July 22, 1918	Lump sum	Tug (O)		2346-2347
Providence Engineering Corporation	City Island, N. Y.	10	228	Mar. 14, 1918	do	do		1345-1354, inclusive
Standard Shipbuilding Co.	Shooters Island, N. Y.	4	202	Mar. 1, 1918	do	Cargo	7,423	[illegible]-1207, inclusive
Submarine Boat Corporation	Newark, N. J.	28	96	Sept. 14, 1917	do	do	5,075	347-[illegible], inclusive
Do	do		96 O. E.	Nov. 16, 1917	do	do	5,075	753-852, inclusive
Total		98						
Total by types:								
Cargo								
Tanker								
Tug (O)								
Total								
DELAWARE RIVER DISTRICT.								
Bethlehem Shipbuilding Corporation (Ltd.)	Wilmington, Del.	5	174	Dec. 31, 1917	Cost plus	Tanker	7,500	1138-1141, inclusive
Do	do		179	do	do	Cargo	7,400	1142-1144, inclusive
Do	do		214	May 18, 1918	do	do	5,100	1975-1981, inclusive
Do	do		214	do	do	Tanker	7,500	1982-1984, inclusive
Cramp, Wm. & Sons Ship & Engine Building Co.	Philadelphia, Pa.	2	521	Aug. 20, 1918	do	do	10,000	1620-1623, inclusive
New York Shipbuilding Corporation	Camden, N. J.	18	131	Dec. 14, 1917	Cost per dead-weight ton	Transport	12,500	1012-1014, inclusive
Do	do		415	July 1, 1918	Cost plus	P. and C.	13,000	2545-2551, inclusive
Do	do		419	Aug. 10, 1918	do	do	13,000	2583-2584
Do	do		420	Aug. 8, 1918	do	do	13,000	2579-2582, inclusive
Do	do		453	Oct. 19, 1918	do	Cargo	11,925	2591
Sun Shipbuilding Co.	Chester, Pa.	3	33	June 9, 1917	Cost per dead-weight ton	do	10,000	346-349, inclusive
Total		30						
Total by types:								
Cargo								
Tanker								
Transport								
P. and C.								
Total								
DELAWARE RIVER AGENCIES.								
American International Shipbuilding Corporation	Hog Island, near Philadelphia, Pa.	50	81	Sept. 13, 1917	Cost plus	Cargo	7,500	492-541, inclusive
Do	do		83 O. E.	Oct. 21, 1917	do	Transport	8,000	590-629, inclusive; 704-728, inclusive
Do	do		83 O. E.	do	do	P. and C.	8,000	680-703, inclusive
Do	do		83 21 O. E.	May 7, 1918	do	Cargo	7,500	1442-1501, inclusive
Merchant Shipbuilding Corporation	Bristol, Pa.	12	82	Sept. 7, 1917	do	do	9,000	727-766, inclusive
Do	do		87 O. E.	Dec. 22, 1917	do	do	9,000	1033-1052, inclusive
Total		62						
Total by types:								
Cargo								
Transport								
P. and C.								
Total								
MIDDLE ATLANTIC DISTRICT.								
Baltimore Dry Dock & Shipbuilding Co.	Baltimore, Md.	8	28	June 30, 1917	Lump sum	Cargo	8,800	192-199, inclusive
Do	do		197	Feb. 28, 1918	do	Tanker	10,300	1244-1255, inclusive
Do	do		216	Mar. 12, 1918	do	do	8,000	1257-1262, inclusive
Bethlehem Shipbuilding Corporation (Ltd.)	Sparrows Point, Md.	10	179	Dec. 31, 1917	Cost plus	do	10,100	1145-1147, inclusive
Do	do		197	do	do	Transport	13,000	1164-1165
Do	do		156	do	do	Cargo	7,600	1243
Do	do		225	Mar. 16, 1918	do	Tanker	10,100	1331-1334, inclusive
Do	do		226	do	do	Cargo	7,400	1349-1351, inclusive
Do	do		301	Apr. 20, 1918	do	Tanker	10,100	1673-1675, inclusive
Do	do		317	Mar. 15, 1918	do	Cargo	7,400	1972-1974, inclusive
Do	do		465	July 15, 1918	do	P. and C.	13,000	2505-2510, inclusive
Carolina Shipbuilding Corporation	Near Wilmington, N. C.	4	230	Apr. 17, 1918	do	Cargo	9,600	1446-1457, inclusive
Newport News Shipbuilding & Dry Dock Co.	Newport News, Va.	2	412	July 8, 1918	do	P. & C.	13,000	2291-2292
Do	do		515	Oct. 10, 1918	do	Tanker	11,375	1654-1661, inclusive
Virginia Shipbuilding Corporation	Alexandria, Va.	4	143	Dec. 7, 1917	Lump sum	Cargo	9,400	973-984, inclusive
Total		34						
Total by types:								
Cargo								
Tanker								
Transport								
P. and C.								
Total								
SOUTHERN DISTRICT.								
Alabama Dry Dock & Shipbuilding Co.	Pinto Island, Mobile, Ala.	1	42	July 20, 1917	Lump sum	Barge	7,500	301-302
Daniels Co., Oscar	Tampa, Fla.	6	87	Oct. 30, 1917	do	Cargo	9,300	733-742, inclusive
Doullut & Williams Shipbuilding Co. (Inc.)	New Orleans, La.	4	104	May 31, 1918	do	do	9,600	1907-1914, inclusive
Johnson Iron Works (Ltd.)	do	4	190	Mar. 7, 1918	do	Tug (II)		1284-1289, inclusive
Merrill-Stevens Shipbuilding Corporation	Jacksonville, Fla.	4	2	May 1, 1917	do	Cargo	6,000	15-18, inclusive
Do	do		149	Oct. 29, 1917	do	do	9,000	1032-1037, inclusive
Do	do		229	May 9, 1918	Cost plus	do	7,500	1533-1536, inclusive
Mobile Shipbuilding Co.	Mobile, Ala.	6	303	June 18, 1918	Lump sum	do	5,000	1669-1680, inclusive
Do	do		416	Aug. 15, 1918	do	do	5,000	534-545, inclusive; 1237-1243, inclusive
Nashville Bridge Co.	Nashville, Tenn.	2	500	Sept. 23, 1918	do	Barge	1,800	2776-2783, inclusive
Pensacola Shipbuilding Co.	Pensacola, Fla.	2	141	Dec. 4, 1917	do	Cargo	9,000	935-944, inclusive
Do	do		445	Aug. 10, 1918	do	do	9,000	2271-2276, inclusive
Terry Shipbuilding Corporation	Savannah, Ga.	8	212	Mar. 12, 1918	do	Tanker	7,500	1392-1401, inclusive
Total		40						
Total by types:								
Cargo								
Tanker								
Barge								
Tug (II)								
Total								
SOUTHERN PACIFIC DISTRICT.								
Bethlehem Shipbuilding Corporation (Ltd.)	Alameda, Calif.	11	177	Dec. 31, 1917	Cost plus	Tanker	10,100	1127-1138, inclusive
Do	do		191	do	do	Cargo	11,800	1223 and 1272
Do	do		191	do	do	do	11,700	1221
Do	do		191	do	do	do	12,000	1222
Do	do		200	Apr. 27, 1918	do	do	11,800	1374, 1375
Do	do		201	Apr. 20, 1918	do	Tanker	10,100	1436-1441, inclusive
Do	do		301	do	do	Cargo	11,800	1642-1647, inclusive
Hanlon Dry Dock & Shipbuilding Co.	Oakland, Calif.	5	174	Jan. 25, 1918	Lump sum	do	5,350	1107-1112, inclusive
Do	do		442	July 2, 1918	do	do	5,350	2253-2258, inclusive
Long Beach Shipbuilding Co.	Long Beach, Calif.	6	61	Aug. 20, 1917	do	do	6,000	423-425, inclusive
Do	do		311	July 10, 1918	do	do	8,800	2313-2320, inclusive
Do	do		464	Aug. 23, 1918	do	do	8,800	2311-2314, inclusive
Do	do		467	do	do	do	2,200	2315
Los Angeles Shipbuilding & Dry Dock Co.	Los Angeles Harbor, Calif.	6	4	May 12, 1917	do	do	8,800	27-34, inclusive
Do	do		92	Oct. 18, 1917	do	do	8,800	763-772, inclusive
Do	do		92 (sup.)	Apr. 1, 1918	do	do	8,800	1402-1413, inclusive
Do	do		410 (pending)	Aug. 23, 1918	do	do	8,800	2143-2148, inclusive; 2257-2260, inclusive
Moore Shipbuilding Co.	Oakland, Calif.	10	15	June 19, 1917	do	do	9,400	145-146, 149-152, inclusive
Do	do		15	do	do	Refrigerator	9,400	143-144, inclusive
Do	do		152	June 21, 1917	do	Cargo	9,400	1015, 1016, 1019, 1020, 1023, and 1024
Do	do		152	do	do	Refrigerator	9,400	1017, 1018, 1021, 1022
Do	do		153	Dec. 31, 1917	do	Tanker	10,000	1025, 1026
Do	do		153	do	do	do	10,000	1027-1030, inclusive
Do	do		435	July 6, 1918	do	Cargo	9,400	2233-2242, inclusive
Do	do		436	do	do	Tanker	10,000	2327-2332, inclusive
Pacific Coast Shipbuilding Co.	Suisun Bay, San Francisco, Calif.	4	142	Nov. 16, 1917	do	Cargo	9,400	941-950, inclusive
Southwestern Shipbuilding Co.	San Pedro, Calif.	6	210	Apr. 27, 1918	do	do	8,800	1371-1380, inclusive
Do	do		425	July 10, 1918	do	do	8,800	2206-2215, inclusive; 2566-2568, inclusive
Union [illegible] Works	Oakland, Calif.	4	272	Apr. 17, 1918	do	do	9,400	1461-1470, inclusive
Western Pipe & Steel Co. of California	South San Francisco, Calif.	4	57	July 21, 1917	do	do	8,800	331-338, inclusive
Do	do		180	Feb. 5, 1918	do	do	8,800	1148-1157, inclusive
Do	do		421	July 10, 1918	do	do	8,800	2202-2205, inclusive
Total		65						
Total by types:								
Cargo								
Tanker								
Refrigerator								
Total								
NORTHERN PACIFIC DISTRICT.								
Albina Engine & Machine Works (Inc.)	Portland, Oreg.	4	120	Jan. 15, 1918	Cost plus	Cargo	3,700	1216-1219, inclusive
Do	do		277	May 16, 1918	do	do	3,700	1666-1670, inclusive
Do	do		441	Aug. 3, 1918	do	do	3,700	2219, 2250, 2253, 2254
Ames Shipbuilding & Dry Dock Co.	Seattle, Wash.	4	218	June 10, 1918	Lump sum	do	8,800	2050-2063, inclusive
Columbia River Shipbuilding Co.	Portland, Oreg.	5	174	Dec. 20, 1917	do	do	8,800	1041-1048, inclusive
Do	do		267	Apr. 27, 1918	Cost plus	do	8,800	1644-1649, inclusive
Do	do		242	May 24, 1918	Lump sum	do	8,800	1692-1705, inclusive
Duthie & Co., J. F.	Seattle, Wash.	4	234	Mar. 15, 1918	Lump sum	Cargo	8,800	1174-1183, inclusive
Do	do		334	May 29, 1918	do	do	8,800	2032-2036, inclusive
Northwest Steel Co.	Portland, Oreg.	4	157	Dec. 27, 1917	do	do	8,800	1073-1080, inclusive
Do	do		257	Mar. 20, 1918	do	do	8,800	1414-1421, inclusive
Do	do		454	Aug. 14, 1918	do	do	8,800	2268-2277, inclusive
[illegible] & Dry Dock Co.	Tacoma, Wash.	[5]	12	June 5, 1917	do	do	7,500	105-106, 111-114, inclusive
Do	Seattle, Wash.	[6]	13	do	do	do	7,500	107-110, inclusive
Seattle North Pacific Shipbuilding Co.	do	5	24	Nov. 5, 1917	do	do	9,400	749-758, inclusive
Skinner & Eddy Corporation	do	10	15	May 29, 1918	do	do	9,600	43-48, inclusive
Do	do		173	Jan. 15, 1918	do	do	9,600	1175-1188, inclusive
Do	do		201	May 27, 1918	do	do	9,600	1731-1745, inclusive
Do	do		224	June 1, 1918	do	do	8,800	1925-1928, inclusive
Do	do		334	do	do	do	8,800	1929-1959, inclusive
Do	do		447	July 19, 1918	do	do	8,800	2270-2282, inclusive
Standifer, G. M., Construction Corporation	Vancouver, Wash.	3	156	Jan. 4, 1918	do	do	9,500	1063-1072, inclusive
Do	do		605	Sept. 20, 1918	do	do	9,500	2626-2630, inclusive
Todd Dry Dock & Construction Corporation	Tacoma, Wash.	5	431	Aug. 31, 1918	Cost plus	do	7,500	2621-2654, inclusive
Total		47				do		

Company.	Total contracted for: Number.	Total contracted for: Dead-weight tons.	Delivered: Number.	Delivered: Dead-weight tons.	Being fitted out in wet basin: Number.	Being fitted out: Dead-weight tons.	On ways: Number.	On ways: Dead-weight tons.	Balance work not started: Number.	Balance work not started: Dead-weight tons.	Under suspension or canceled: Number.	Under suspension: Dead-weight tons.	Balance to be constructed: Number.	Balance to be constructed: Dead-weight tons.
NORTHERN ATLANTIC DISTRICT.														
Atlantic Corporation	10	88,000			1	8,800	5	44,000	4	35,200			4	35,200
Baker Shipyard (Inc.)	4	20,000					2	10,000	2	10,000			2	10,000
Do	2						2							
Do	2								2		2			
Do	2								2		2			
Do	2								2		2			
Bethlehem Shipbuilding Corporation (Ltd.)	3	27,300					3	27,300						
Do	3	27,300							3	27,300			3	27,300
Do	4		2		4									
Do	11				4		4		6				6	
Do	10								10		10			
Downey Shipbuilding Corporation	10	75,000	1	7,500	5	37,500	3	22,500	1	7,500			1	7,500
Federal Shipbuilding Co.	10	96,000	8	76,800	2	19,200								
Do	20	192,000			2	19,200	12	115,200	6	57,600			6	57,600
Gahagan, W. H. (Inc.)	10								10		10			
Groton Iron Works	6	27,600			1	4,600	5	[illegible]						
Do	6	56,400							6	56,400	3	28,200	3	28,200
Newburgh Shipyards (Inc.)	4	36,000	1	9,000	3	27,000								
Do	8	72,000					4	36,000	2	18,000	2		2	18,000
Do	3								2					
Do	2	18,000							2	18,000			2	18,000
New Jersey Dry Dock & Transportation Co	2								2		2			
Providence Engineering Corporation	10				1		8		1				1	
Standard Shipbuilding Co.	10	74,230			1	7,423	6	44,538	3	22,269			3	22,269
Submarine Boat Corporation	[illegible]	[illegible]	3	15,225	33	167,475	15	76,125						
Do	100	507,500					12	60,900	88	446,600			88	446,600
Total	310	1,678,380	15	108,525	56	290,333	81	480,825	154	808,409	37	28,200	121	670,090
Total by types: Cargo	233	1,322,780	13	108,525	47	290,333	64	453,525	114	671,569	3	28,200	111	643,350
Tanker	6	54,600					3	27,300	3	27,300			3	27,300
Tug (O)	66		2		9		14		41		34		7	
Total	310	1,376,380	15	108,525	56	290,333	81	480,825	155	808,409	37	28,200	121	670,090
DELAWARE RIVER DISTRICT.														
Bethlehem Shipbuilding Corporation (Ltd.)	3	22,500			1	7,500	2	15,000						
Do	3	22,200							3	22,200			3	22,200
Do	7	35,700					1	5,100	6	30,600			6	30,600
Do	3	22,500					2	15,000	1	7,500			1	7,500
Cramp, Wm. & Sons Ship & Engine Building Co.	4	40,000	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]
New York Shipbuilding Corporation	3	37,500					3	37,500						
Do	7	91,000							7	91,000			7	91,000
Do	2	26,000							2	26,000			2	26,000
Do	4	52,000							4	52,000			4	52,000
Do	1	11,925					1	11,925						
Sun Shipbuilding Co.	4	40,000					1	10,000	3	30,000			3	30,000
Total	37	262,925			1	7,500	10	96,125	26	259,300			26	259,300
Total by types: Cargo	15	109,925					3	27,025	12	82,900			12	82,900
Tanker	6	45,000			1	7,500	4	30,000	1	7,500			1	7,500
Transport	3	37,500					3	37,500						
P. and C.	13	169,000							13	169,000			13	169,000
Total	37	262,925			1	7,500	10	96,125	26	259,300			26	259,300
DELAWARE RIVER AGENCIES.														
American International Shipbuilding Corporation	50	375,000	8	60,000	12	90,000	30	225,000						
Do	46	364,000					11	88,000	35	280,000	35	280,000		
Do	24	192,000					1	8,000	23	184,000			23	184,000
Do	60	450,000					7	52,500	53	397,500			53	397,500
Merchant Shipbuilding Corporation	40	360,000	4	36,000	3	27,000	11	99,000	22	198,000			22	198,000
Do	20	180,000							20	180,000	20	180,000		
Total	240	1,923,000	12	96,000	15	117,000	60	472,500	153	1,239,500	55	460,000	98	779,500
Total by types: Cargo	170	1,365,000	12	96,000	15	117,000	48	376,500	95	775,500	20	180,000	75	595,500
Transport	46	364,000					11	88,000	35	280,000	35	280,000		
P. and C.	24	192,000					1	8,000	23	184,000			23	184,000
Total	240	1,923,000	12	96,000	15	117,000	60	472,500	153	1,239,500	55	460,000	98	779,500
MIDDLE ATLANTIC DISTRICT.														
Baltimore Dry Dock & Shipbuilding Co.	8	70,400	4	35,200	1	8,800	3	26,400						
Do	12	123,600					1	10,300	11	113,300	6	61,800	5	51,500
Do	6	48,000					1	8,000	5	40,000	2	16,000	3	24,000
Bethlehem Shipbuilding Corporation (Ltd.)	2	20,200	1	10,100	2	20,200								
Do	2	26,000					2	26,000						
Do	1	7,600	1	7,600										
Do	4	40,400					4	40,400						
Do	3	22,200	1	7,400			1	7,400	1	7,400			1	7,400
Do	3	30,300							3	30,300			3	30,300
Do	3	22,200							3	22,200	3	22,200		
Do	6	78,000					2	26,000	4	52,000			4	52,000
Carolina Shipbuilding Corporation	12	115,200					4	38,400	8	76,800			8	76,800
Newport News Shipbuilding & Dry Dock Co.	2	26,000							2	26,000			2	26,000
Do	8	91,000							8	91,000			8	91,000
Virginia Shipbuilding Corporation	12	112,800			1	9,400	4	37,600	7	65,800	2	18,800	5	47,000
Total	83	831,800	7	80,100	4	38,400	22	218,500	52	514,000	13	114,800	39	400,000
Total by types: Cargo	39	330,200	6	50,000	2	18,200	12	109,900	19	172,200	4	41,000	14	131,200
Tanker	34	331,600	1	10,100	2	20,200	6	56,700	27	264,000	9	73,800	19	190,400
Transport	2	26,000					2	26,000						
P. and C.	8	104,000					2	26,000	6	78,000			6	78,000
Total	83	831,800	7	80,100	4	38,400	22	218,500	52	514,000	13	114,800	39	400,000
SOUTHERN DISTRICT.														
Alabama Dry Dock & Shipbuilding Co.	2	15,000					1	7,500	1	7,500			1	7,500
Daniels Co., Oscar	10	93,000			1	9,300	5	46,500	4	37,200			4	37,200
Doullut & Williams Shipbuilding Co. (Inc.)	8	76,800					4	38,400	4	38,400			4	38,400
Johnson Iron Works (Ltd.)	6						4		2				2	
Merrill-Stevens Shipbuilding Corporation	4	24,000			1	6,000	3	18,000						
Do	6	54,000							6	54,000			6	54,000
Do	5	37,500							5	37,500	5	37,500		
Mobile Shipbuilding Co.	12	60,000							12	60,000	12	60,000		
Do	12	60,000					4	20,000	8	40,000			8	40,000
Nashville Bridge Co.	8	14,400					1	1,800	7	12,600			7	12,600
Pensacola Shipbuilding Co.	10	90,000			1	9,000	5	45,000	4	36,000			4	36,000
Do	6	54,000							6	54,000	6	54,000		
Terry Shipbuilding Corporation	10	75,000					2	15,000	8	60,000	5	37,500	3	22,500
Total	99	639,700			3	24,300	29	193,200	67	422,000	28	173,000	39	249,000
Total by types: Cargo	73	535,300			3	24,300	21	168,900	49	341,000	23	135,500	26	206,400
Tanker	10	75,000					2	15,000	8	60,000	5	37,500	3	22,500
Barge	10	29,400					2	9,300	8	20,100			8	20,100
Tug (II)	6						4		2				2	
Total	99	639,700			3	24,300	29	193,200	67	422,000	28	173,000	39	249,000
SOUTHERN PACIFIC DISTRICT.														
Bethlehem Shipbuilding Corporation (Ltd.)	12	121,200			1	10,100	6	60,600	5	50,500			5	50,500
Do	2	23,600	2	23,600										
Do	1	11,700	1	11,700										
Do	1	12,000			1	12,000								
Do	2	23,600			2	23,600								
Do	6	60,600							6	60,600	3	30,300	3	30,300
Do	6	70,800							6	70,800	3	35,400	3	35,400
Hanlon Dry Dock & Shipbuilding Co.	6	32,100			2	10,700	3	16,050	1	5,350			1	5,350
Do	6	32,100							6	32,100	3	16,050	3	16,050
Long Beach Shipbuilding Co.	3	18,000	3	18,000										
Do	8	70,400			1	8,800	5	44,000	2	17,600			2	17,600
Do	4	35,200							4	35,200	4	35,200		
Do	1	2,200	1	2,200										
Los Angeles Shipbuilding & Dry Dock Co.	8	70,400	8	70,400										
Do	10	88,000	3	26,400	7	61,600								
Do	12	105,600					5	44,000	7	61,600			7	61,600
Do	10	88,000							10	88,000	10	88,000		
Moore Shipbuilding Co.	6	56,400	5	47,000	1	9,400								
Do	4	37,600	3	28,200	1	9,400								
Do	6	56,400			3	28,200	3	28,200						
Do	4	37,600			2	18,800	2	18,800						
Do	2	20,000			1	10,000	1	10,000						
Do	4	40,000					4	40,000						
Do	10	94,000							10	94,000	4	37,600	6	56,400
Do	6	60,000							6	60,000	3	30,000	3	30,000
Pacific Coast Shipbuilding Co.	10	94,000			2	18,800	3	28,200	5	47,000			5	47,000
Southwestern Shipbuilding Co.	10	88,000			2	17,600	8	70,400						
Do	13	114,400	3	26,400			1	8,800	12	105,600	5	44,000	7	61,600
Union [illegible] Works	10	94,000					4	37,600	6	56,400			6	56,400
Western Pipe & Steel Co. of California	8	70,400	5	44,000	3	26,400								
Do	10	88,000					4	35,200	6	52,800			6	52,800
Do	4	35,200							4	35,200	4	35,200		
Total	205	1,852,500	34	298,900	39	365,900	44	418,[illegible]	96	873,750	39	331,750	57	521,000
Total by types: Cargo	167	1,476,500	31	270,700	31	217,100	33	[illegible]	79	700,650	33	291,450	46	410,200
Tanker	30	301,800			3	24,100	11	114,[illegible]	17	171,100	6	60,300	11	110,800
Refrigerator	8	75,200	3	28,200	3	28,200	2	18,[illegible]						
Total	205	1,852,500	34	298,900	39	365,900	44	418,[illegible]	96	873,750	39	331,750	57	521,000
NORTHERN PACIFIC DISTRICT.														
Albina Engine & Machine Works (Inc.)	4	14,800	3	11,100	1	3,700								
Do	5	18,500	2	7,400	1	3,700	2	7,400						
Do	4	14,800					2	7,400	2	7,400	2	7,400		
Ames Shipbuilding & Dry Dock Co.	14	123,200			1	8,800	3	26,400	10	88,000	6	52,800	4	35,200
Columbia River Shipbuilding Co.	8	70,400	4	35,200	1	8,800	3	26,400						
Do	6	52,800	4	35,200			2	17,600						
Do	14	123,200	2	17,600			2	17,600	10	88,000	2	17,600	8	70,400
Duthie & Co., J. F.	10	88,000			2	17,600	3	26,400	5	44,000	3	26,400	2	17,600
Do	5	44,000							5	44,000	3	26,400	2	17,600
Northwest Steel Co.	8	70,400	5	44,000	1	8,800	2	17,600						
Do	8	70,400			3	26,400	4	35,200	1	8,800			1	8,800
Do	10	88,000							10	88,000	6	52,800	4	35,200
[illegible] & Dry Dock Co.	6	45,000			2	15,000	3	22,500	1	7,500			1	7,500
Do	4	30,000	2	15,000	2	15,000								
Seattle North Pacific Shipbuilding Co.	10	94,000			3	28,200	5	47,000	2	18,800			2	18,800
Skinner & Eddy Corporation	6	57,600	6	57,600										
Do	14	134,400	12	115,200	1	9,600	1	9,600						
Do	15	144,000	3	28,800	2	19,200	4	38,400	6	57,600			6	57,600
Do	4	35,200	4	35,200										
Do	31	272,800			1	8,800	4	35,200	26	228,800	17	149,600	9	79,200
Do	13	114,400							13	114,400	9	79,200	4	35,200
Standifer, G. M., Construction Corporation	10	95,000			2	19,000	5	47,500	3	28,500			3	28,500
Do	5	47,500							5	47,500	5	47,500		
Todd Dry Dock & Construction Corporation	34	190,000					3	[illegible]	21	157,500	13	95,000	8	62,500
Total	237	2,036,000	50	418,300	26	219,800	44	373,[illegible]	117	1,024,900	61	534,600	56	490,300

Company.	Cost: Contract.	Cost: Estimated Additional.	Cost: Estimated Total.	Type.	Estimated cost per dead-weight ton: Of ships to be constructed.	Estimated cost per dead-weight ton: Of cancellation.	Estimated: Cost of cancellation.	Estimated: Total savings account of cancellation.	Net total cost: Estimated cost less amount saved due to cancellation.
NORTHERN ATLANTIC DISTRICT.									
Atlantic Corporation	$14,080,000	$2,420,000	$16,500,000	Cargo	$187.50				$16,500,000
Baker Shipyard (Inc.)	3,400,000	570,000	3,970,000	do	198.50				3,970,000
Do	620,000	47,000	667,000						667,000
Do	621,000	55,000	676,000				$109,150	$567,450	109,150
Do	610,000	55,500	665,500				166,400	499,100	166,400
Do	610,000	66,000	676,000				161,150	477,600	161,150
Bethlehem Shipbuilding Corporation (Ltd.)	6,150,000	650,520	6,800,520	Tanker	249.10				6,800,520
Do	6,105,000	270,440	6,374,440	do	233.44				6,374,440
Do	1,990,000	214,570	2,204,570						2,204,570
Do	4,690,000	764,400	5,454,400						5,454,400
Do	3,300,000	304,000	3,604,000				904,000	2,700,000	904,000
Downey Shipbuilding Corporation	11,628,000	2,773,000	14,401,000	Cargo	192.00				14,401,000
Federal Shipbuilding Co.	16,480,000	1,062,400	17,542,400	do	182.73				17,542,400
Do	34,176,000	1,488,400	35,664,400	do	185.75				35,664,400
Gahagan, W. H. (Inc.)	2,430,000	771,000	3,201,000				760,300	2,440,720	760,280
Groton Iron Works	4,[illegible]	64,500	[illegible]				246,375	721,125	246,375
Do	9,384,000	1,348,000	10,732,000	Cargo	190.28				10,732,000
Newburgh Shipyards (Inc.)	10,204,000	1,807,464	12,011,464	do	212.11	656.78	1,814,120	4,546,577	7,464,887
Do	6,170,000	887,840	7,057,840	do	196.11				7,057,840
Do	9,366,000	1,231,000	10,597,000	do	196.11				10,597,000
Do	855,000	56,400	911,400				229,450	681,950	229,450
New Jersey Dry Dock & Transportation Co	3,800,000	120,700	3,920,700	Cargo	194.27				3,920,700
Providence Engineering Corporation	604,000	41,240	645,240				151,210	491,930	151,210
Standard Shipbuilding Co.	2,820,000	411,000	3,231,000						3,231,000
Submarine Boat Corporation	13,105,000	1,347,700	14,452,700	Cargo	194.44				14,452,700
Do	44,320,000	2,748,050	47,068,050	do	199.88				47,068,050
Do	96,920,000	4,267,100	101,187,100	do	199.30				101,187,100
Total	309,418,600	25,597,072	334,015,672		[1]197.27	181.78	4,327,940	12,981,543	321,033,229
Total by types: Cargo	275,844,600	22,291,852	298,136,452	Cargo	185.85	32.74	1,816,325	4,543,477	291,320,605
Tanker	12,256,000	924,000	13,179,000	Tanker	241.37				13,179,000
Tug (O)	21,319,000	2,391,310	23,710,310				2,511,325	8,431,066	16,777,335
Total	309,419,600	25,597,072	334,015,672		[1]197.27	181.74	4,327,940	12,980,543	321,032,229
DELAWARE RIVER DISTRICT.									
Bethlehem Shipbuilding Corporation (Ltd.)	3,318,000	351,000	3,669,000	Tanker	260.73				3,669,000
Do	4,425,000	520,910	4,945,910	Cargo	222.78				4,945,910
Do	7,544,000	388,000	7,932,000	do	222.40				7,932,000
Do	5,144,000	150,000	5,294,000	Tanker	235.40				5,294,000
Cramp, Wm. & Sons Ship & Engine Building Co.	7,920,000		7,920,000	do	198.00				7,920,000
New York Shipbuilding Corporation	12,840,000	1,020,000	13,860,000	Transport	369.60				13,860,000
Do	28,320,000	654,000	28,974,000	P. and C.	[1]361.07				28,974,000
Do	8,950,000	90,000	9,040,000	do	347.64				9,040,000
Do	17,254,000	442,000	17,696,000	do	340.31				17,696,000
Do	2,340,000		2,340,000	Cargo	217.19				2,340,000
Sun Shipbuilding Co.	9,600,000	230,000	9,830,000	do	245.75				9,830,000
Total	96,009,800	4,664,990	100,674,790		277.18				100,674,790
Total by types: Cargo	23,441,000	1,944,900	25,385,900	Cargo	230.43				25,385,900
Tanker	10,464,000	701,000	11,165,000	Tanker	248.11				11,165,000
Transport	12,750,000	333,500	13,083,500	Transport	348.89				13,083,500
P. and C.	49,354,800	1,190,300	50,534,000	P. and C.	298.96				50,534,000
Total	96,009,800	4,664,990	100,674,790		277.18				100,674,790
DELAWARE RIVER AGENCIES.									
American International Shipbuilding Corporation	57,750,000	21,446,000	79,196,000	Cargo	211.20				79,196,000
Do	79,646,000	40,841,744	120,487,744	Transport	327.55	50.56	16,478,375	50,003,125	70,502,621
Do	41,580,000	21,300,254	62,880,254	P. and C.	327.55				62,880,254
Do	89,550,000	2,125,000	91,675,000	Cargo	203.40				91,675,000
Merchant Shipbuilding Corporation	68,577,000	2,635,000	71,212,000	do	197.81				71,212,000
Do	34,296,000	1,317,600	35,613,600	do	197.85	49.45	8,901,810	26,704,830	8,901,810
Total	270,641,400	90,475,900	361,417,320		229.70	53.61	25,379,965	76,739,955	284,677,365
Total by types: Cargo	240,006,000	28,722,500	277,900,320	Cargo	207.65	49.45	8,901,810	26,704,830	251,293,600
Transport	79,645,000	40,842,744	120,487,744	Transport	327.55	50.56	16,478,375	50,003,125	70,502,621
P. and C.	41,580,000	21,300,254	62,880,254	P. and C.	327.55				62,880,254
Total	270,641,400	90,475,900	361,417,320		229.70	53.61	25,379,965	76,739,955	284,677,365
MIDDLE ATLANTIC DISTRICT.									
Baltimore Dry Dock & Shipbuilding Co.	11,123,200	1,727,640	12,850,840	Cargo	182.54				12,850,840
Do	27,800,000	2,841,720	30,641,720	Tanker	284.38	61.87	5,808,215	31,415,643	19,226,077
Do	8,440,000	407,300	8,847,300	do	224.83	64.63	773,600	2,226,900	6,620,400
Bethlehem Shipbuilding Corporation (Ltd.)	6,610,000	650,950	7,260,950	do	247.57				7,260,950
Do	8,840,000	642,000	9,482,000	Transport	364.69				9,482,000
Do	1,421,300	193,900	1,615,200	Cargo	212.52				1,615,200
Do	8,800,000	987,400	9,787,400	Tanker	241.71				9,787,400
Do	4,200,000	529,100	4,729,100	Cargo	214.20				4,729,100
Do	6,600,000	360,490	6,960,490	Tanker	229.42				6,960,490
Do	4,125,000	[4]164,500	3,960,500	Cargo	178.22	44.46	988,125	2,987,375	988,125
Do	26,891,500	634,400	27,525,900	P. and C.	352.93				27,525,900
Carolina Shipbuilding Corporation	21,514,000	2,628,000	24,142,000	Cargo	209.58				24,142,000
Newport News Shipbuilding & Dry Dock Co.	9,200,000	292,000	9,492,000	P. and C.	365.08				9,492,000
Do	19,360,000	1,115,000	20,475,000	Tanker	225.00				20,475,000
Virginia Shipbuilding Corporation	16,049,000	2,394,000	18,443,000	Cargo	191.01	47.40	468,900	2,679,000	15,764,000
Total	180,944,700	16,643,460	197,591,160		237.55	56.30	6,462,940	19,280,820	179,201,340
Total by types: Cargo	40,404,700	6,304,240	47,758,940	Cargo	193.49	49.51	1,842,120	6,646,575	42,112,365
Tanker	77,570,000	6,742,920	84,332,920	Tanker	259.91	62.97	4,540,415	12,742,645	70,610,773
Transport	8,840,000	642,000	9,482,000	Transport	364.69				9,482,000
P. and C.	35,040,000	916,400	35,956,400	P. and C.	345.73				35,956,400
Total	180,944,700	16,643,460	197,591,160		237.55	56.30	6,462,940	19,280,820	179,201,340
SOUTHERN DISTRICT.									
Alabama Dry Dock & Shipbuilding Co.	1,090,161	35,100	1,125,261	Barge	74.77				1,125,261
Daniels Co., Oscar	15,300,000	2,442,300	17,742,300	Cargo	187.71				17,742,300
Doullut & Williams Shipbuilding Co. (Inc.)	14,111,200	844,800	14,956,000	do	185.00				14,956,000
Johnson Iron Works (Ltd.)	900,000	110,400	1,010,400		[1]				1,010,400
Merrill-Stevens Shipbuilding Corporation	3,664,000	770,000	4,434,000	Cargo	184.75				4,434,000
Do	8,730,640	1,612,760	10,343,400	do	191.54				10,343,400
Do	4,123,000	178,200	4,301,200	do	214.30	36.21	1,073,313	3,227,877	1,073,313
Mobile Shipbuilding Co.	11,700,000	546,000	12,246,000	do	204.10	44.08	2,645,500	9,600,500	2,645,500
Do	11,280,000	[4]118,000	11,162,000	do	194.00				11,162,000
Nashville Bridge Co.	1,800,000	125,200	1,925,200	Barge	133.64				1,925,200
Pensacola Shipbuilding Co.	16,185,000	1,544,500	17,729,500	Cargo	196.44				17,729,500
Do	10,110,000	396,000	10,506,000	do	194.55	45.04	2,430,500	7,079,500	2,430,500
Terry Shipbuilding Corporation	16,360,000	1,080,500	18,043,500	Tanker	240.58	60.11	2,255,426	6,746,313	11,277,188
Total	116,133,941	10,022,490	126,155,431		[1]200.26	52.13	9,013,781	27,656,349	99,099,112
Total by types: Cargo	96,083,840	8,081,810	104,170,650	Cargo	194.00	49.91	6,763,315	20,290,902	83,880,715
Tanker	16,360,000	1,080,500	18,043,500	Tanker	240.58	60.11	2,255,426	6,746,313	11,277,188
Barge	2,754,101	146,730	2,900,831	Barge	98.66				2,900,831
Tug (II)	900,000	110,400	1,010,400						1,010,400
Total	116,133,941	10,022,490	126,155,431		[1]200.26	52.13	9,013,781	27,656,349	99,099,112
SOUTHERN PACIFIC DISTRICT.									
Bethlehem Shipbuilding Corporation (Ltd.)	27,960,000	2,744,650	30,704,650	Tanker	253.34				30,704,650
Do	4,672,900	661,900	5,334,800	Cargo	226.04				5,334,800
Do	2,516,600	293,100	2,809,700	do	240.16				2,809,700
Do	2,376,000	267,200	2,643,200	do	220.26				2,643,200
Do	4,345,000	291,400	4,636,400	do	196.45				4,636,400
Do	13,960,000	542,700	14,502,700	Tanker	239.30	50.61	1,609,788	6,420,137	8,082,563
Do	13,665,000	640,600	14,305,600	Cargo	202.19	50.80	1,799,280	6,294,600	8,011,000
Hanlon Dry Dock & Shipbuilding Co.	6,265,500	849,273	7,114,773	do	221.64				7,114,773
Do	6,774,300	242,700	7,017,000	do	222.58	50.64	812,775	3,428,325	3,588,675
Long Beach Shipbuilding Co.	2,721,320	573,000	3,294,320	do	183.24				3,294,320
Do	12,000,000	542,800	12,542,800	do	182.60				12,542,800
Do	6,700,000	322,400	7,022,400	do	199.50	49.55	1,744,550	5,277,850	1,744,550
Do	600,000	17,000	617,000	do	280.45				617,000
Los Angeles Shipbuilding & Dry Dock Co.	10,981,940	1,872,100	12,854,040	do	182.59				12,854,040
Do	15,138,000	1,726,843	16,864,843	do	191.64				16,864,843
Do	20,872,000	2,071,235	22,943,235	do	217.27				22,943,235
Do	17,160,000	640,000	17,800,000	do	202.27	50.36	4,431,500	13,374,500	4,431,500
Moore Shipbuilding Co.	9,015,840	1,701,000	10,716,840	do	190.07				10,716,840
Do	8,009,000	1,334,000	9,343,000	Refrigerator	248.49				9,343,000
Do	11,167,200	483,500	11,650,700	Cargo	206.57				11,650,700
Do	7,444,000	2,564,600	10,008,600	Refrigerator	266.19				10,008,600
Do	2,900,000	177,334	3,077,334	Tanker	153.87				3,077,334
Do	10,020,000	234,646	10,254,646	do	256.37				10,254,646
Do	18,416,000	642,000	19,058,000	Cargo	202.74	50.90	1,913,600	5,740,400	13,317,600
Do	14,950,000	712,000	15,662,000	Tanker	261.03	61.94	1,849,500	5,981,500	9,680,500
Pacific Coast Shipbuilding Co.	15,792,000	1,524,210	17,316,210	Cargo	184.36				17,316,210
Southwestern Shipbuilding Co.	16,300,000	1,074,700	17,374,700	do	197.44				17,374,700
Do	22,384,787	789,000	23,174,[illegible]	do	202.57	50.94	2,229,227	6,964,[illegible]	16,210,[illegible]
Union [illegible] Works	16,982,000	1,642,000	18,624,000	do	198.13				18,624,000
Western Pipe & Steel Co. of California	11,540,000	1,472,500	13,012,500	do	185.00				13,012,500
Do	16,240,000	2,291,000	18,531,000	do	210.00				18,531,000
Do	6,734,400	254,400	6,988,800	do	198.54	49.43	1,739,200	5,263,000	1,734,200
Total	334,569,273	33,347,163	366,916,436		210.44	52.22	16,678,143	53,116,080	314,608,949
Total by types: Cargo	271,643,467	33,436,913	305,080,380	Cargo	206.12	50.40	14,714,862	44,144,863	262,132,430
Tanker	71,470,000	3,611,750	73,381,750	Tanker	248.44	60.67	3,631,250	15,965,637	64,316,113
Refrigerator	15,452,000	3,899,600	19,352,600	Refrigerator	257.34				19,352,600
Total	334,569,273	33,347,163	366,916,436		210.44	52.22	16,678,143	53,116,080	314,608,949
NORTHERN PACIFIC DISTRICT.									
Albina Engine & Machine Works (Inc.)	2,830,000	467,630	3,297,630	Cargo	218.73				3,297,630
Do	3,834,000	217,900	4,051,900	do	219.07				4,051,900
Do	3,057,000	115,600	3,172,600	do	214.37	33.84	366,050	1,190,620	1,844,730
Ames Shipbuilding & Dry Dock Co.	24,174,000	646,800	24,820,800	do	202.30	56.63	2,000,033	6,027,042	18,793,757
Columbia River Shipbuilding Co.	14,160,000	1,094,492	15,254,492	do	216.69				15,254,492
Do	9,120,000	629,400	9,749,400	do	182.59				9,650,000
Do	23,601,740	1,874,563	25,476,303	do	207.43	51.96	913,661	2,739,971	22,617,381
Duthie & Co., J. F.	16,720,000	2,146,400	18,866,400	Cargo	214.38				14,366,430
Do	9,380,000	325,900	9,705,900	do	197.44	40.41	1,304,450	3,912,350	4,742,910
Northwest Steel Co.	14,190,000	931,400	15,121,400	do	214.06				15,121,400
Do	12,376,000	1,797,000	14,173,000	do	213.43				14,173,000
Do	17,392,000	646,000	18,038,000	do	212.94	30.96	2,040,700	6,072,100	9,840,500
[illegible] & Dry Dock Co.	7,473,000	1,358,000	8,831,000	do	204.00				8,141,300
Do	3,250,000	871,000	4,121,000	do	204.00				4,121,000
Seattle North Pacific Shipbuilding Co.	17,260,000	2,387,000	19,747,000	do	209.30				19,747,000
Skinner & Eddy Corporation	8,650,000	327,400	8,977,400	do	171.79				8,977,400
Do	28,878,000	1,003,000	29,101,000	do	218.75				29,101,000
Do	27,673,000	1,641,500	29,314,500	do	203.61				29,115,400
Do	6,964,000	240,900	7,204,900	do	204.68				7,204,900
Do	57,198,000	8,770,200	65,968,200	do	241.84	51.21	9,836,131	26,674,303	39,293,897
Do	23,140,000	533,900	23,673,900	do	206.94	48.90	3,632,320	11,046,020	12,627,880
Standifer, G. M., Construction Corporation	17,475,000	2,437,750	19,912,750	do	209.61				19,912,750
Do	8,800,000	647,800	9,447,800	do	198.90	48.73	2,361,673	7,086,625	2,361,675
Todd Dry Dock & Construction Corporation	21,810,000	1,365,000	23,175,000	do	176.76	44.90	4,262,120	12,800,273	10,374,727
Total	364,020,740	27,701,384	413,622,124		202.36	46.67	26,346,117	79,048,344	333,177,779

[1] The cost of tugs and barges has been eliminated in figuring the average cost per dead-weight ton.
[2] Different type of ship having less speed and displacement.
[3] No record; navy supervision; not included in totals.
[4] Credit.
[5] See Todd.
[6] See Skinner & Eddy.

Status of contract steel-ship program as of Mar. 31, 1919—Continued.

Company.	Location.	Number of ways for Emergency Fleet Corporation completion.	Contract: Number.	Contract: Date.	Contract: Kind.	Type of ship.	Dead-weight tons per ship.	Hull numbers.
GREAT LAKES DISTRICT.								
American Ship Building Co., The	Buffalo, N. Y.	2	101 and 104	Nov. 20, 1917	Lump sum	Cargo	3,550	903 and 904
Do	do		133-135, inclusive	do	do	do	3,550	933-935, inclusive
Do	do		234-236, inclusive	Mar. 28, 1918	do	do	4,200	1641-1643, inclusive
Do	do		318	June 11, 1918	do	do	4,050	1651
Do	Chicago, Ill.	6	102-103-105-106	Nov. 20, 1917	do	do	3,550	902-903-905-906
Do	do		136-140, inclusive	do	do	do	3,550	956-960, inclusive
Do	do		237-243, inclusive	Mar. 28, 1918	do	do	4,200	1584-1590, inclusive
Do	do		319	June 11, 1918	do	do	4,050	1772-1778, inclusive
Do	Cleveland, Ohio	2	115-120, inclusive	Nov. 20, 1917	do	do	3,550	915-920, inclusive
Do	do		184 and 186	Jan. 17, 1918	do	do	3,550	1185 and 1187
Do	do		225-226	Mar. 28, 1918	do	do	3,550	1542-1543
Do	do		244-249, inclusive	do	do	do	4,200	1611-1616, inclusive
Do	do		313	June 11, 1918	do	do	4,050	1690-1695, inclusive
Do	do		314	do	do	do	4,050	1820-1821, inclusive
Do	Detroit, Mich.	10	107-114, inclusive	Nov. 20, 1917	do	do	3,550	907-914, inclusive
Do	do		160-162, inclusive	Jan. 17, 1918	do	do	3,550	1191-1193, inclusive
Do	do		221-224, inclusive	Mar. 28, 1918	do	do	3,550	1578-1581, inclusive
Do	do		244-263, inclusive	do	do	do	4,200	1591-1610, inclusive
Do	do		319	June 11, 1918	do	do	4,050	1779-1802, inclusive
Do	Lorain, Ohio	8	125-132, inclusive	Nov. 20, 1917	do	do	3,550	925-932, inclusive
Do	do		167-169, inclusive	Jan. 17, 1918	do	do	3,550	1194-1196, inclusive
Do	do		276-290, inclusive	Mar. 28, 1918	do	do	4,600	1422-1440, inclusive
Do	do		319	June 11, 1918	do	do	4,050	1818-1826, inclusive
Do	Superior, Wis.	4	171-174, inclusive	Nov. 20, 1917	do	do	3,550	971-974, inclusive
Do	do		163-164	Jan. 17, 1918	do	do	3,550	1197 and 1198
Do	do		270-275, inclusive	Mar. 28, 1918	do	do	4,200	1417-1422, inclusive
Do	do		319	June 11, 1918	do	do	4,050	1909-1914, inclusive
The Foundation Co. (Port Huron Shipyards)	Port Huron, Mich.		413	July 20, 1918	do	Tug (O)		2235-2244, inclusive
Great Lakes Engineering Works	Ashtabula, Ohio	3	149	Mar. 5, 1918	do	Cargo	4,200	1273-1279, inclusive
Do	do		200	Mar. 5, 1918	do	do	3,350	1280 and 1281
Do	do		321	June 12, 1918	do	do	4,050	1831-1838, inclusive
Do	Ecorse, Mich.	8	150	Mar. 5, 1918	do	do	4,200	1256-1272, inclusive
Do	do		201	Mar. 5, 1918	do	do	3,350	1251-1252, 1254-1255
Do	do		321	June 12, 1918	do	do	4,050	1858-1873, inclusive
Globe Steamboat Corp.	Superior, Wis.	3	192	Feb. 23, 1918	do	do	3,500	1231-1237, inclusive
Do	do		223	May 2, 1918	do	do	3,500	1376 and 1377
Do	do		331	June 11, 1918	do	do	4,050	1418-1422, inclusive
Do	do		433	Aug. 13, 1918	do	do	4,050	2252-2256, inclusive
Lake & Ocean Steamboat Co.	Cleveland, Ohio		388	July 30, 1918	do	Tug (O)		2244-2246, inclusive
Manitowoc Steamboat Co.	Manitowoc, Wis.	6	203	Feb. 27, 1918	do	Cargo	3,400	1301-1306, inclusive
Do	do		204	Feb. 27, 1918	do	do	3,400	1310-1312, inclusive
Do	do		327	June 11, 1918	do	do	4,050	1784-1795, inclusive
Do	do		317 (sup)	Aug. 28, 1918	do	do	4,050	2011-2016, inclusive
McDougall-Duluth Co.	Duluth, Minn.	8	205	Mar. 7, 1918	do	do	3,500	1227-1236, inclusive
Do	do		323	June 11, 1918	do	do	4,050	1653-1667, inclusive
Northwest Engineering Works	Green Bay, Wis.	4	207	Mar. 9, 1918	do	Tug (H)		1243-1244
Do	do		307	June 27, 1918	do	Tug (O)		2063-2070, inclusive
Do	do		505	Sept. 21, 1918	do	do		2795-2803, inclusive
Saginaw Steamboat Co.	Saginaw, Mich.	8	61	Aug. 21, 1917	do	Cargo	3,500	404-411, inclusive
Do	do		141	Jan. 21, 1918	do	do	3,500	1154-1163, inclusive
Do	do		318	June 14, 1918	do	do	4,050	1760-1771, inclusive
Toledo Steamboat Co.	Toledo, Ohio	6	171	Jan. 12, 1918	do	do	3,500	1099-1106, inclusive
Do	do		327	June 11, 1918	do	do	4,050	1412-1427, inclusive
Whitney Iron Co.	Superior, Wis.	6	216	Mar. 21, 1918	do	Tug (O)		1445-1448, inclusive
Do	do		216 (sup)	July 17, 1918	do	do		2139-2144, inclusive
Total		72						
Total by types: Cargo								
Tugs (O)								
Tugs (H)								
Total								
JAPANESE CONTRACTS.								
[illegible]	Osaka, Japan		344	May 20, 1918	Cost per DWT	Cargo	5,500	2006
Fujinagata	Fujinagata, Japan		345	May 20, 1918	do	do	6,300	2009
[illegible]	Aioi, Japan		346	May 20, 1918	do	do	10,500	2010
Do	do		347	May 20, 1918	do	do	5,000	2011
Ishikawajima	Tokio, Japan		348-349	May 15, 1918	do	do	5,000	2012-2013
Kawasaki	Kobe, Japan		350-354, inclusive	May 21, 1918	do	do	9,000	2014-2018, inclusive
[illegible]	Osaka, Japan		353	May 27, 1918	do	do	5,500	2019
[illegible]	Yokohama, Japan		354-356, inclusive	May 16, 1918	do	do	6,300	2020-2022, inclusive
[illegible]	Tsurumi, Japan		357-358	May 13, 1918	do	do	11,600	2023-2024
Uraga	Uraga, Japan		361-363, inclusive	May 18, 1918	do	do	6,650	2075-2077, inclusive
[illegible]	Uno (Okayama), Japan		364-365	May 17, 1918	do	do	9,000	2030-2031
[illegible]	Nagasaki, Japan		366-367	May 15, 1918	do	do	8,400	2033-2034
[illegible]	Nagasaki, Japan		368-369	May 16, 1918	do	do	8,500	2032-2033
Osaka	Osaka, Japan		370-373, inclusive	May 16, 1918	do	do	10,500	2051-2057, inclusive
Total by types: Cargo								
CHINESE CONTRACTS.								
Kiangnan Dock & Engineering Works	Shanghai, China		390	July 10, 1918	Cost per DWT	Cargo	10,000	2063-2066, inclusive

Company.	Total contracted for: Number.	Total contracted for: Dead-weight tons.	Delivered: Number.	Delivered: Dead-weight tons.	Being fitted out in wet basin: Number.	Being fitted out in wet basin: Dead-weight tons.	On ways: Number.	On ways: Dead-weight tons.	Balance work not started: Number.	Balance work not started: Dead-weight tons.	Under suspension or cancelled: Number.	Under suspension or cancelled: Dead-weight tons.	Balance to be constructed: Number.	Balance to be constructed: Dead-weight tons.
GREAT LAKES DISTRICT.														
American Ship Building Co., The	2	7,100	2	7,100										
Do	3	10,650	2	7,100	1	3,550								
Do	3	12,600					3	12,600						
Do	1	4,050							1	4,050			1	4,050
Do	4	14,200	4	14,200										
Do	5	17,750	5	17,750										
Do	7	29,400	2	8,400	4	16,800	1	4,200						
Do	7	28,350					4	16,200	3	12,150			3	12,150
Do	6	21,300	6	21,300										
Do	2	7,100	2	7,100										
Do	2	7,100	2	7,100										
Do	6	25,200	1	4,200	5	21,000								
Do	6	24,300					3	12,150	3	12,150			3	12,150
Do	2	8,100							2	8,100			2	8,100
Do	8	28,400	8	28,400										
Do	3	10,650	3	10,650										
Do	4	14,200	4	14,200										
Do	20	84,000	4	16,800	15	63,000	1	4,200						
Do	24	97,200					9	36,450	15	60,750			15	60,750
Do	8	28,400	8	28,400										
Do	3	10,650	3	10,650										
Do	16	73,600	1	4,600	13	59,800	2	9,200						
Do	14	56,700					3	12,150	11	44,550			11	44,550
Do	4	14,200	4	14,200										
Do	2	7,100	2	7,100										
Do	6	25,200	2	8,400	4	16,800								
Do	6	24,300					5	20,250	1	4,050			1	4,050
The Foundation Co. (Port Huron Shipyards)	10								10		10			
Great Lakes Engineering Works	7	29,400	2	8,400	2	8,400	3	12,600						
Do	2	6,700	2	6,700										
Do	8	32,400					2	8,100	6	24,300	1	4,050	5	20,250
Do	17	71,400	10	42,000	4	16,800	3	12,600						
Do	4	13,400	4	13,400										
Do	16	64,800					5	20,250	11	44,550			11	44,550
Globe Steamboat Corp.	4	14,000	2	7,000	2	7,000								
Do	2	7,000					2	7,000						
Do	5	20,250					3	12,150	2	8,100			2	8,100
Do	5	20,250							5	20,250	1	4,050	4	16,200
Lake & Ocean Steamboat Co.	3								3		2			
Manitowoc Steamboat Co.	6	20,400			6	20,400								
Do	3	10,200	3	10,200										
Do	12	48,600					6	24,300	6	24,300			6	24,300
Do	6	24,300							6	24,300	2	8,100	4	16,200
McDougall-Duluth Co.	10	35,000	1	3,500	6	21,000	3	10,500						
Do	15	60,750					5	20,250	10	40,500	1	4,050	9	36,450
Northwest Engineering Works	2				2									
Do	4				1		4		1				1	
Do	9								9				9	
Saginaw Steamboat Co.	6	21,000	5	17,500	1	3,500								
Do	6	21,000			1	3,500	5	17,500						
Do	12	48,600					1	4,050	11	44,550	6	24,300	5	20,250
Toledo Steamboat Co.	8	28,000	7	24,500	1	3,500								
Do	16	64,800					6	24,300	10	40,500	1	4,050	9	36,450
Whitney Iron Co.	4				4									
Do	6						6							
Total	314	1,334,850	101	370,450	71	253,650	68	243,600	126	417,150	25	44,600	101	363,150
Total by types: Cargo	276	1,334,850	101	370,450	64	253,650	75	243,600	103	417,150	12	44,600	91	363,150
Tugs (O)	36				6		10		21		13		10	
Tugs (H)	2				2									
Total	316	1,334,850	101	370,450	71	253,650	68	243,600	126	417,150	25	44,600	101	363,150
JAPANESE CONTRACTS.														
[illegible]	1	5,500							1	5,500			1	5,500
Fujinagata	1	6,300							1	6,300			1	6,300
[illegible]	1	10,500							1	10,500			1	10,500
Do	1	5,000							1	5,000			1	5,000
Ishikawajima	2	10,000							2	10,000			2	10,000
Kawasaki	5	45,000							5	45,000			5	45,000
[illegible]	1	5,500							1	5,500			1	5,500
[illegible]	3	18,900							3	18,900			3	18,900
[illegible]	2	23,200							2	23,200			2	23,200
Uraga	3	19,950							3	19,950			3	19,950
[illegible]	2	18,000							2	18,000			2	18,000
[illegible]	2	16,800							2	16,800			2	16,800
[illegible]	2	17,000							2	17,000			2	17,000
Osaka	4	42,000							4	42,000			4	42,000
Total by types: Cargo	30	245,850							30	245,850			30	245,850
CHINESE CONTRACTS.														
Kiangnan Dock & Engineering Works	4	40,000							4	40,000			4	40,000

Company.	Cost: Contract.	Cost: Estimated: Additional.	Cost: Estimated: Change due to adjustment of contract.	Cost: Estimated: Total.	Estimated cost per dead-weight ton: Type.	Estimated cost per dead-weight ton: Of ships to be constructed.	Estimated cost per dead-weight ton: Of cancellation.	Estimated: Cost of cancellation.	Estimated: Total savings on account of cancellation.	Net total cost: Estimated cost, less amount saved due to cancellation.
GREAT LAKES DISTRICT.										
American Ship Building Co., The	$1,411,750		$77,617	[1] $1,489,367	Cargo	$209.77				$1,489,367
Do	2,190,000		44,000	[2] 2,234,000	do	209.77				2,234,000
Do	2,430,000		212,102	[2] 2,642,102	do	209.77				2,642,102
Do	820,000		29,544	[2] 849,544	do	209.77				849,544
Do	2,820,500		122,808	[1] 2,943,308	do	207.43				2,943,308
Do	3,650,000		21,833	[1] 3,681,833	do	207.43				3,681,833
Do	5,670,000		428,442	[1] 6,098,442	do	207.43				6,098,442
Do	5,740,000		140,641	[1] 5,880,641	do	207.43				5,880,641
Do	4,290,000		151,733	[1] 4,441,733	do	210.41				4,441,733
Do	1,560,000		[3] 66,089	[1] 1,493,911	do	210.41				1,493,911
Do	1,440,000		53,911	[1] 1,493,911	do	210.41				1,493,911
Do	4,860,000		442,332	[1] 5,302,332	do	210.41				5,302,332
Do	4,920,000		192,963	[1] 5,112,963	do	210.41				5,112,963
Do	1,640,000		64,721	[4] 1,704,721	do	210.41				1,704,721
Do	5,540,000		14,944	[1] 5,554,944	do	206.14				5,554,944
Do	2,340,000		[3] 144,396	[1] 2,195,604	do	206.14				2,195,604
Do	2,960,000		[3] 32,528	[1] 2,927,472	do	206.14				2,927,472
Do	16,200,000		1,117,440	[1] 17,317,440	do	206.14				17,317,440
Do	19,750,000		338,733	[1] 20,088,733	do	206.14				20,088,733
Do	5,900,000		99,202	[1] 5,999,202	do	209.13				5,999,202
Do	2,340,000		[3] 112,767	[1] 2,227,233	do	209.13				2,227,233
Do	14,580,000		1,230,228	[1] 15,810,228	do	209.13				15,810,228
Do	11,480,000		377,671	[4] 11,857,671	do	209.13				11,857,671
Do	2,920,000		108,130	[1] 3,028,130	do	211.25				3,028,130
Do	1,460,000		[3] 43,928	[1] 1,416,072	do	212.25				1,416,072
Do	4,960,000		412,940	[1] 5,372,940	do	212.25				5,372,940
Do	4,920,000		241,973	[4] 5,161,973	do	212.25				5,161,973
The Foundation Co. (Port Huron Shipyards)	2,400,000	$300,000		2,700,000				$601,260	$2,098,730	601,260
Great Lakes Engineering Works	5,300,000	874,005		[1] 6,174,005	Cargo	210.02				6,174,005
Do	1,520,000	[3] 72,866		[1] 1,447,134	do	210.02				1,447,134
Do	6,400,000	404,643		[1] 6,804,643	do	210.02	$12.50	212,645	627,998	6,146,723
Do	12,750,000	2,313,603		[4] 15,063,603	do	211.00				15,063,603
Do	3,000,000	[3] 172,600		[1] 2,827,400	do	211.00				2,827,400
Do	12,800,000	872,800		[3] 13,672,800	do	211.00				13,672,800
Globe Steamboat Corp.	2,840,000	149,140		[1] 2,989,140	do	213.51				2,989,140
Do	1,420,000	74,370		[1] 1,494,370	do	213.51				1,494,370
Do	4,100,000	222,576		[4] 4,322,576	do	213.51				4,322,576
Do	4,000,000	222,579		[1] 4,222,579	do	213.51	$3.24	210,179	640,330	3,673,043
Lake & Ocean Steamboat Co.	900,000	61,500		961,500				200,573	721,125	240,373
Manitowoc Steamboat Co.	4,230,000	156,064		[1] 4,386,064	Cargo	214.71				4,386,064
Do	2,190,000	42		[1] 2,190,042	do	214.71				2,190,042
Do	9,864,000	570,906		[3] 10,434,906	do	214.71				10,434,906
Do	4,620,000	487,453		[1] 5,227,453	do	214.71	$3.48	434,797	1,204,303	3,812,660
McDougall-Duluth Co.	7,100,000	679,730		[1] 7,779,730	do	222.28				7,779,730
Do	12,373,070	1,128,900		[4] 13,501,965	do	222.28		220,520	873,004	12,627,004
Northwest Engineering Works	300,000	37,320		343,320						343,320
Do	1,870,000	153,000		1,023,000						1,022,000
Do	2,341,000	343,000		2,684,000						2,584,000
Saginaw Steamboat Co.	5,200,000	373,200		[1] 5,573,200	Cargo	157.10				3,003,200
Do	3,240,000	190,340		[1] 3,430,340	do	167.16				3,003,000
Do	9,750,000	[3] 656,024		[1] 9,093,976	do	187.10		1,130,907	2,410,901	8,232,440
Toledo Steamboat Co.	5,840,000	440,410		6,280,410	do	223.73				6,280,410
Do	13,200,000	363,530		13,563,530	do	209.34	$2.91	211,062	625,003	12,938,557
Whitney Iron Co.	1,220,000	109,900		1,329,900						1,329,900
Do	1,414,000	127,500		1,542,500						1,542,500
Total	251,000,250	10,028,943	5,543,317	266,700,113		[4] 209.31	[4] 30.10	3,479,722	10,427,444	265,262,444
Total by types: Cargo	243,451,250	9,059,423	5,543,317	261,104,003	Cargo	209.31	30.10	3,437,566	7,312,763	278,794,000
Tugs (O)	11,200,000	949,700		12,249,700				1,041,620	3,124,373	9,124,030
Tugs (H)	300,000	37,320		343,320						343,320
Total	251,000,250	10,028,943	5,543,317	266,700,113		[4] 209.31	[4] 30.10	3,479,722	10,427,440	265,262,440
JAPANESE CONTRACTS.										
[illegible]	962,500			962,500	Cargo	175.00				962,500
Fujinagata	1,102,500			1,102,500	do	175.00				1,102,500
[illegible]	1,837,500			1,837,500	do	175.00				1,837,500
Do	875,000			875,000	do	175.00				875,000
Ishikawajima	1,750,000			1,750,000	do	175.00				1,750,000
Kawasaki	7,875,000			7,875,000	do	175.00				7,875,000
[illegible]	962,500			962,500	do	175.00				962,500
[illegible]	3,307,500			3,307,500	do	175.00				3,307,500
[illegible]	4,060,000			4,060,000	do	175.00				4,060,000
Uraga	3,491,250			3,491,250	do	175.00				3,491,250
[illegible]	3,150,000			3,150,000	do	175.00				3,150,000
[illegible]	2,940,000			2,940,000	do	175.00				2,940,000
[illegible]	2,975,000			2,975,000	do	175.00				2,975,000
Osaka	7,350,000			7,350,000	do	175.00				7,350,000
Total by types: Cargo	43,023,750			43,023,750		175.00				43,023,750
CHINESE CONTRACTS.										
Kiangnan Dock & Engineering Works	7,800,000			7,800,000	Cargo	195.00				7,800,000

[1] Decrease from original estimated cost.
[2] Credit.
[3] Increase over original estimated cost.
[4] The cost of tugs and barges has been eliminated in figuring the average cost per dead-weight ton.

Exhibit 4, Part 4.

Recapitulation of requisitioned steel ship program as of Mar. 31, 1919.

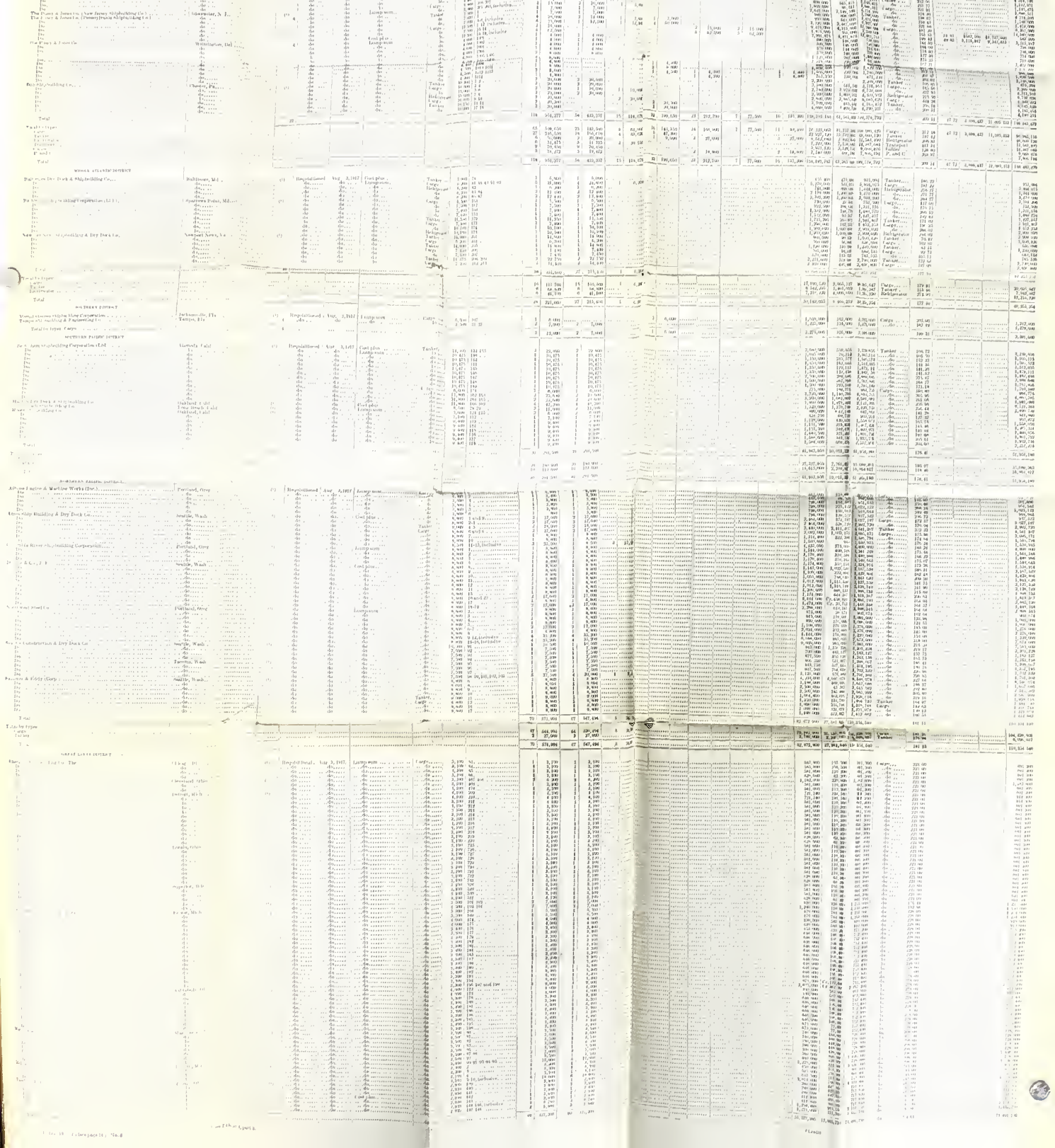
District.	Number of ways	Total requisitioned.		Delivered.		Being fitted out in wet basin.		On ways.		Balance work not started.		Under suspension or canceled.		Balance to be constructed.		Cost.			Cost per dead-weight ton.	Estimated.			Net total cost, estimated cost less amount saved due to cancellation.
		Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Number.	Dead-weight tons.	Contract.	Estimated. Additional.	Estimated. Total.		Cost per dead-weight ton of cancellation.	Cost of cancellation.	Total savings account of cancellation.	
DISTRICTS.																							
Northern Atlantic	6	42	312,350	29	219,650	5	41,700	5	17,000	4	33,000			4	33,000	$18,850,054	$9,579,403	$28,220,257	$170.50				$28,220,257
Delaware River	23	118	954,777	58	425,237	15	114,871	22	199,650	23	212,700	7	77,500	10	125,200	137,160,143	61,735,009	199,576,752	209.11	917.72	83,600,437	311,005,313	188,162,879
Middle Atlantic	24	224	2,021,607	77	715,600	1	6,200									20,792,015	8,464,219	29,255,254	177.15				29,255,254
Southern	1	3	13,000	3	7,000			1	6,000							2,275,003	916,000	3,191,003	198.35				3,191,003
Southern Pacific	20	206,000	20	201,000												41,947,003	10,013,230	51,954,140	178.41				51,954,140
Northern Pacific	70	271,004	47	147,101	2	24,000										82,972,000	27,381,040	110,354,340	193.15				110,354,340
Great Lakes	99	227,200	93	227,200												55,527,000	17,963,700	73,491,700	324.61				72,491,700
Total	32	391	2,731,181	312	3,054,181	31	190,970	28	222,250	27	246,200	7	77,500	20	158,700	438,552,002	135,063,621	573,615,623	191.56	47.72	3,600,437	11,005,313	531,620,310
TYPES.																							
Cargo.																							
Northern Atlantic		27	201,600	23	156,500	1	22,100	1	14,000							39,223,810	8,296,110	33,220,920	172.03				33,220,920
Delaware River		45	364,250	23	183,700	6	64,900	16	103,350	10	109,050	7	77,500	11	80,100	76,723,058	31,737,256	104,001,478	212.48	47.72	3,600,437	11,005,313	89,995,116
Middle Atlantic		16	111,700	15	105,500	1	6,200									17,000,820	3,065,127	20,065,947	179.81				20,065,947
Southern		1	13,000	3	7,000			1	6,000							2,275,003	916,000	3,191,003	198.35				3,191,003
Southern Pacific		20	180,000	20	180,000											37,377,003	9,781,813	47,158,816	195.97				35,098,363
Northern Pacific		67	541,004	64	520,496	1	21,500									79,102,003	25,133,003	104,235,003	191.36				104,235,003
Great Lakes		99	227,200	93	227,200											55,527,000	17,963,700	73,491,700	324.61				72,491,700
Total		227	1,801,101	245	1,423,151	10	127,700	18	163,450	10	109,050	7	77,500	11	80,100	307,233,223	81,791,223	378,997,003	203.41	47.72	3,600,437	11,005,313	367,603,249
Tanker.																							
Northern Atlantic		12	101,250	5	37,700	1	9,500	6	33,600	4	33,500			4	33,500	16,566,810	3,961,762	14,530,572	177.67				14,530,572
Delaware River		27	248,550	15	165,610	4	33,630	8	47,300							32,927,230	13,732,800	43,660,130	197.43				43,660,130
Middle Atlantic		6	64,900	6	64,900											6,343,295	1,401,102	7,745,397	115.68				7,943,397
Southern Pacific		10	113,000	10	113,000											14,815,000	3,749,817	18,564,817	163.66				18,564,817
Northern Pacific		3	27,000	3	27,000											3,790,000	2,346,037	6,036,037	176.94				6,036,037
Total		58	570,230	40	472,710	5	43,130	4	80,900	4	33,500			4	33,500	73,433,125	25,191,518	98,624,953	174.97				98,821,953
REFRIGERATOR.																							
Northern Atlantic		3	21,000	3	21,000											2,805,000	459,001	3,264,000	149.09				3,264,000
Delaware River		6	56,000	2	20,000			1	9,000	3	27,000			3	27,000	8,543,000	2,960,810	11,503,490	205.63				11,503,490
Middle Atlantic		6	41,100	6	41,100											7,318,220	4,000,000	11,318,220	272.90				11,318,220
Total		15	118,000	11	83,000			1	9,000	3	27,000			3	27,000	18,665,000	7,460,710	26,084,610	219.08				26,084,610
TRANSPORT.																							
Northern Atlantic		1	11,250	1	11,250											951,334	322,731	1,278,065	110.30				1,278,065
Delaware River		6	54,475	3	14,325	3	20,100									7,220,050	7,153,462	16,367,063	417.34				16,367,063
Total		7	65,725	4	25,575	3	20,100									8,180,384	7,481,314	15,661,648	340.20				15,661,648
COLLIER.																							
Delaware River		9	70,350	9	70,350											1,031,120	2,139,756	9,060,876	126.50				9,060,876
FIREBOAT AND CARGO																							
Delaware River		2	25,272	2	19,472					2	18,800			2	18,800	7,165,000	640,194	7,805,194	308.97				7,805,194
Grand total		301	2,734,181	312	3,054,181	31	190,970	28	222,250	27	246,200	7	77,500	20	158,700	429,552,002	135,063,621	573,615,623	191.56	47.72	3,600,437	11,005,313	534,620,310

Estimated cost of cancellation, 25 per cent.

EXHIBIT 4, PART 4—Continued.

Status of requisitioned steel ship program as of Mar. 31, 1919

Company	Location	Number of contracts	Contract number	Date	Kind	Type of ship	Dead-weight tons per ship	Hull numbers	Total requisitioned: Number	Total requisitioned: Dead-weight tons	Delivered: Number	Delivered: Dead-weight tons
Total by types:												
Cargo									65	548,650	23	[illegible]
Tanker									27	260,530	18	[illegible]
Refrigerator									6	56,000	2	[illegible]
Transport									6	51,473	3	[illegible]
Collier									9	70,350	3	[illegible]
P. and C.									5	53,273	3	[illegible]
Total									114	951,277	54	433,257
MIDDLE ATLANTIC DISTRICT.												
Baltimore Dry Dock & Shipbuilding Co.	Baltimore, Md.	(1)	Requisitioned	Aug. 3, 1917	Cost plus	Tanker	5,000	28	1	5,000	1	5,000
Do	do		do	do	Lump sum	Cargo	5,200	41, 33-42, 61-67	6	31,000	4	[illegible]
Do	do		do	do	do	Refrigerator	6,200	57	1	6,200	1	[illegible]
Do	do		do	do	do	do	6,200	51, 54	2	12,400	2	[illegible]
Do	do		do	do	do	do	6,200	56, 57	2	12,400	2	[illegible]
Bethlehem Shipbuilding Corporation (Ltd.)	Sparrows Point, Md.	(1)	do	do	do	Cargo	5,500	164	1	5,500	1	[illegible]
Do	do		do	do	do	do	7,500	167	1	7,500	1	[illegible]
Do	do		do	do	do	do	7,440	169	1	7,440	1	[illegible]
Do	do		do	do	do	do	7,100	170	1	7,100	1	[illegible]
Do	do		do	do	do	Tanker	11,150	172	1	11,150	1	[illegible]
Do	do		do	do	do	Cargo	7,600	174	1	7,600	1	[illegible]
Do	do		do	do	do	do	10,100	176	1	10,100	1	[illegible]
Do	do		do	do	do	Refrigerator	10,100	177	1	10,100	1	[illegible]
Newport News Shipbuilding & Dry Dock Co.	Newport News, Va.	(1)	do	do	do	Tanker	14,500	201	1	14,500	1	[illegible]
Do	do		do	do	do	Cargo	6,200	204	1	6,200	1	[illegible]
Do	do		do	do	do	Tanker	14,500	205	1	14,500	1	[illegible]
Do	do		do	do	do	Cargo	7,450	206	1	7,450	1	[illegible]
Do	do		do	do	do	do	7,450	207	1	7,450	1	[illegible]
Do	do		do	do	do	Tanker	11,375	208, 209	2	22,750	2	22,750
Do	do		do	do	do	Cargo	7,200	212, 213	2	14,400	2	[illegible]
Total									29	221,660	27	[illegible]
Total by types:												
Cargo									16	115,260	13	[illegible]
Tanker									6	64,400	6	[illegible]
Refrigerator									6	41,100	6	[illegible]
Total									28	221,660	27	[illegible]
SOUTHERN DISTRICT.												
Merrill-Stevens Shipbuilding Corporation	Jacksonville, Fla.	(1)	Requisitioned	Aug. 3, 1917	Lump sum	Cargo	6,000	107	1	6,000		
Tampa Shipbuilding & Engineering Co.	Tampa, Fla.		do	do	do	do	3,500	31-32	2	7,000	2	7,000
Total by types: Cargo									3	13,000	2	7,000
SOUTHERN PACIFIC DISTRICT.												
Bethlehem Shipbuilding Corporation (Ltd.)	Alameda, Calif.	(1)	Requisitioned	Aug. 3, 1917	Cost plus	Tanker	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Hanlon Dry Dock & Shipbuilding Co.	Oakland, Calif.	(1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Long Beach Shipbuilding Co.	Long Beach, Calif.	(1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Moore Shipbuilding Co.	Oakland, Calif.	(1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NORTHERN PACIFIC DISTRICT.												
Albina Engine & Machine Works (Inc.)	Portland, Oreg.	(1)	Requisitioned	Aug. 3, 1917	Lump sum	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ames Shipbuilding & Dry Dock Co.	Seattle, Wash.	(1)	[illegible]	[illegible]	Cost plus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Columbia River Shipbuilding Corporation	Portland, Oreg.	(1)	[illegible]	[illegible]	Lump sum	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Duthie & Co., J. F.	Seattle, Wash.	[illegible]	[illegible]	[illegible]	Cost plus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Northwest Steel Co.	Portland, Oreg.	[illegible]	[illegible]	[illegible]	Lump sum	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Seattle Construction & Dry Dock Co.	Seattle, Wash.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



Status of contract concrete ship program as of Mar. 31, 1919.

Contractor.	Location.	Number of ways for 3 contractors (Parentheses indicate ways under construction).	Contract. Number.	Contract. Date.	Contract. Kind.	Contract. Type of ship.	Dead-weight tons per ship.	Hull numbers.	Total contracted for. Number.	Total contracted for. Dead-weight tons.	Delivered. Number.	Delivered. Dead-weight tons.	Being fitted out in wet basin. Number.	Being fitted out in wet basin. Dead-weight tons.	On ways. Number.	On ways. Dead-weight tons.	On ways under suspension of contract. Number.	On ways under suspension of contract. Dead-weight tons.	Shipbuilder has not started. Number.	Shipbuilder has not started. Dead-weight tons.	Under suspension or cancelled. Number.	Under suspension or cancelled. Dead-weight tons.	Delivery to be completed. Number.	Delivery to be completed. Dead-weight tons.	Cost. Estimated. Contract.	Cost. Estimated. Machinery and facilities.	Cost. Estimated. Additional.	Cost. Estimated. Total.	Estimated cost per dead-weight ton. Type.	Estimated cost per dead-weight ton. Ch'ge to be contracted.	Estimated cost per dead-weight ton. Ch'ge to cancellation.	Estimated. Cost of cancellation.	Estimated. Total average cost per ton on completion.	Net total cost of uncompleted ships on cancellation.
SOUTHERN ATLANTIC DISTRICT.																																		
Pacific American Steel Company	Flushing Bay, Long Island, N. Y.	1	182	Jan. 29, 1918	Cost plus	Barge	3,500	1100	1	3,500															$280,000	$280,000	$180,000	$460,000	Barge	$131 43				$461,000
MIDDLE ATLANTIC DISTRICT.																																		
Liberty Shipbuilding Co.	Wilmington, N. C.	3	220	Apr. 18, 1918	Cost plus	Barge	2,500	1503 and 1505	2	7,000									2	14,000	2	14,000			$70,000	$35,000	$20,000	$125,000	Barge	161 43				$126,000
			220		do	Tanker	7,500	1501 and 1504																	140,000	140,000	70,000	350,000	Tanker	154 67	$10 33	$280,000	$1,035,000	1,120,000
Total		3	220						2	7,000									2	14,000	2	14,000			210,000	175,000	90,000	475,000		156 67	10 33	280,000	1,035,000	1,120,000
Total by types: Barge		3	220						2	7,000									2	14,000	2	14,000			70,000	35,000	20,000	125,000	Barge	161 43				$126,000
Tanker																									140,000	140,000	70,000	350,000	Tanker	154 67	10 33	280,000	1,035,000	1,120,000
Total		3	220						2	7,000									2	14,000	2	14,000			210,000	175,000	90,000	475,000		156 67	10 33	280,000	1,035,000	1,120,000
SOUTHERN DISTRICT.																																		
Southern Shipbuilding Corp.	Jacksonville, Fla.	3	301	June 3, 1918	Cost plus	Tanker	7,500	1707-1710, inclusive	4	30,000									2	15,000	2	15,000			1,500,000	2,200,000	600,000	4,800,000	Tanker	154 67	10 33	280,000	1,035,000	5,835,000
The A. S. Abell Co.	Mobile, Ala.	3	346	do	do	Tanker	7,500	1711-1714, inclusive	4	30,000									2	15,000	2	15,000			1,500,000	2,200,000	600,000	4,800,000	do	154 67	10 33	280,000	1,035,000	5,835,000
Henry Grabowsky, Inc.	Brunswick, Ga.	3	374	Apr. 18, 1918	do	Barge	3,000	961	1	3,000									1	3,000					255,000	255,000	50,000	360,000	Barge	120 33				360,000
Total		6							9	63,000			1	3,000	4	30,000			5	33,000	3	22,500	1	7,500	3,255,000	4,655,000	1,250,000	9,960,000		156 57	10 43	560,000	2,070,000	12,030,000
Total by types: Barge		3							1	3,000			1	3,000					1	3,000					255,000	255,000	50,000	360,000	Barge	120 33				360,000
Tanker		3							8	60,000					4	30,000	3	22,500	4	30,000	3	22,500	1	7,500	3,000,000	4,400,000	1,200,000	9,600,000	Tanker	154 67	10 33	560,000	2,070,000	11,670,000
Total		6							9	63,000			1	3,000	4	30,000			5	33,000	3	22,500	1	7,500	3,255,000	4,655,000	1,250,000	9,960,000		156 57	10 43	560,000	2,070,000	12,030,000
NORTHERN PACIFIC DISTRICT.																																		
Pacific Marine & Construction Co. of California	San Diego, Cal.	3	367	June 3, 1918	Cost plus	Tanker	7,500	1723-1726, inclusive	4	30,000									2	15,000	2	15,000			1,500,000	2,200,000	600,000	4,800,000	Tanker	154 67	10 33	280,000	1,035,000	5,835,000
Thomas Shipbuilding Co.	San Francisco Bay, Cal.	3	394	May 31, 1918	do	do	7,500	1863-1866, inclusive	4	30,000									2	15,000	2	15,000			1,500,000	2,200,000	600,000	4,800,000	do	154 67	10 33	280,000	1,035,000	5,835,000
Total by types: Tanker		6							8	60,000					4	30,000	3	22,500	4	30,000	3	22,500	1	7,500	3,000,000	4,400,000	1,200,000	9,600,000		154 67	10 33	560,000	2,070,000	11,670,000
Grand total		11							27	140,500			1	3,000	11	79,500			16	73,500	9	60,000	2	15,000	7,040,000	10,980,000	2,540,000	20,560,000		156 82	10 23	1,120,000	5,130,000	25,820,000

Estimated cost of cancellation on tanker (hull) $95,000
Estimated cost of cancellation on tanker (machinery) 45,000

Total 140,000

Estimated cost of cancellation on barge (hull) 100,000
Estimated cost of cancellation on barge (machinery) 70,000

Total 170,000

GENERAL REVIEW OF THE ADMINISTRATIVE ACTIVITIES, MAY 1, 1918, TO APRIL 30, 1919.

REPORT TO DIRECTOR GENERAL CHARLES PIEZ BY HOWARD COONLEY, VICE PRESIDENT.

INTRODUCTION.

In order to obtain a coherent idea of the work that has been accomplished under my jurisdiction during the past year, it is necessary to review conditions which existed when I undertook my duties on May 1, 1918.

You will remember that the purpose for which I was called to the Fleet Corporation was to relieve you of that portion of the heavy load you had been carrying, which included the administration of finances, supervision of legal, contract, purchasing, statistical, publication and general office activities, and the general executive control of the administrative functions of the organization.

The Emergency Fleet Corporation had been built up in the year immediately following the declaration of war under conditions of the most extreme pressure. During that period also there had been repeated changes in executives and therefore in general plans. Above everything else, however, the goal was speed in production of ships, and of necessity all other questions, whether of method or cost, had to be subordinated.

An examination of the organization and management record of the Emergency Fleet Corporation during the first year of its existence shows that the various suborganizations and management units of the corporation were built up around various individuals, and with little regard to the development of a scheme of organization which would permit of expansion without disruption. In order to obtain the type of individual who had the experience and ability to push through the network of legal, technical, and formal difficulties and to achieve success in his particular activity, it was necessary to allow a free hand and a high degree of authority. This is by no means a criticism of those who first controlled the management of the Emergency Fleet Corporation. The time had come, however, when full success could be obtained only by a clear alignment of authority and responsibility and uniformity of purpose and method throughout

the organization. Even after the necessity for this uniformity was recognized there still remained a proprietary attitude in the minds of those who had undertaken the difficult task, and a natural hesitancy to share in efforts to bring about coordination. There was little information available upon which the executives could base an intelligent decision. There were no precedents. There had never existed an organization so big, so complicated, or one produced so rapidly. Therefore, it is not surprising that the administrative methods of the corporation grouped themselves, and were arbitrarily grouped, around various individuals, with little reference to priority of importance or essential relationship of like problems—the only thought being to capitalize to the maximum the previous experience and management capabilities of the various men who had been brought together hurriedly to constitute the management of the Emergency Fleet Corporation. With a stable personnel this scheme of management organization doubtless would have solved itself satisfactorily in due course of time. But when it is appreciated that such a plan of control, predicated as it is upon the individual capabilities and at times the individual peculiarities of the men in the organization—means a serious dislocation of management organization of the corporation when there is a change in the management personnel—and when to this portentous situation is added the almost kaleidoscopic change in management personnel—it is not surprising to find during the first months of the corporation's existence a number of distressing disturbances developed. It was to the handling of this problem that my first attention was given.

Chart "A" illustrates the organization as it existed prior to May 1, 1918.

ORGANIZATION AND METHODS.

Fortunately, there had been set up by you, in February, 1918, an organization and methods section, which had gone far in its study of the situation as it then existed and had established a system of general orders which provided a method of focusing and clearing the organization work that has proven one of the greatest factors in bringing about the success which has been achieved.

Three main points had to be kept in view throughout the work of regrouping the corporation's activities. First, it was essential that during the period of change there should be no hesitation whatever in the progress of the corporation's general task. It was necessary to build up the new structure before the old one was torn down. Secondly, the planning of the change in each branch of the organization had to be considered as only the first and altogether the simplest step in the process. The real problem came in the alteration of the existing machinery and the adaptation of the personnel. No overnight

changes were attempted; every detail of the effect of each new order was analyzed and a method of procedure worked out before the change was made. Thirdly, the definition of authorities and responsibilities had to be made clear and so consistent as to leave open no question as between departments or executives.

CHANGES IN PERSONNEL.

Throughout this period of organization the great expansion in shipbuilding and consequently in the personnel of the organization continued. On May 1, 1918, we had in the home office 2,695 persons and in the field offices 1,379, a total of 4,074. By November 1, 1918, just prior to the signing of the armistice, this number had increased to a total of 4,345 in the home office and 3,550 in the field offices, a grand total of 7,895.

VOLUME OF CORRESPONDENCE.

From a weekly average of approximately 36,000 letters and telegrams, we had increased to the astonishing average of between 80,000 and 90,000.

EXPENDITURES.

Our expenditures had risen from $77,734,736.03 per month to $107,360,906.31.

REMOVAL OF OFFICES FROM WASHINGTON.

It was just at the time when the most serious difficulty in the development of the organization of the corporation was being encountered that it was decided to move the offices from Washington to Philadelphia. Although the confusion due to moving the 2,400 employees of the home office, interfered seriously, for the time being, with the immediate carrying out of the organization plans, it must be recognized that it would have been impossible to develop the organization of the corporation as the management problems demanded, had the physical consolidation of the various divisions and branches not been effected. While in Washington, the offices of the corporation were housed in 23 widely scattered buildings. The move to Philadelphia made it possible to combine all of the general administrative groups in one building and to house the remaining sections of the home office in three nearby buildings.

The handling of this transfer in itself was a remarkable demonstration of efficiency. It entailed not only the transportation of the personnel and the office equipment but the provision of housing accommodations and the handling of a vast quantity of household furniture. The bulk of this material was handled by trucks loaned by the Quartermaster's Department, 200 loads being carried between Washington and Philadelphia in a period of less than two weeks.

DEVELOPMENT OF ORGANIZATION.

By June 15 the organization had settled comfortably in its new quarters, and the first steps in its definite development were begun Centralized control of the stenographie and clerical functions, common to all branches of the organization, was established and lines of authority and responsibility were set up.

The functions of the construction and administrative work had by this time been definitized and separated, and groupings made of related aetivities.

The problem of providing supplies and material for the shipbuilding contraetors had been in some respects the most urgent and difficult task which the corporation had faced. In the original organization this work had been undertaken through three separate and partly independent agencies; the first concerning itself with the production of materials, the second with the purchase, and the third with distribution. It was very clear that these three branches having to do with the task of keeping the shipbuilders supplied with the necessary materials eould not be operated effectively as independent activities without great waste of energy and effort. It was therefore decided to create a single Supply Division, the head of which would be held responsible for production, purchase, and distribution.

This step was taken by Executive order during the latter part of June. There was turned over to the Supply Division the great and somewhat cumbersome force of employees whieh had been built up to carry out the purchasing activity. The manager of the new division saw at once the possibility of coordinating this work with the production machinery which had been set up in various geographical districts and of eliminating the need for a very great number of employees. The staff of more than 1,200 persons who had been engaged previously in the purchasing work was redueed by one-half, the methods of purchase revised, and eloser relations established, both between the purchasing and production aetivities and the purchasing and financial accounting of the corporation.

Definite responsibilities and authorities were laid down by the manager of the Supply Division, and throughout the remainder of the year 1918 there were gradual and very substantial improvements brought about in the methods of obtaining and distributing supplies. In December, 1918, the original practice of purchasing against the contraetor's requirements for hulls was abandoned, and the present plan of purchasing and distributing to the actual needs of the contractor was substituted.

PLANT PROTECTION.

The activities of the plant-protection section included plant guarding, plant fire protection, and investigation. The section performed excellently the functions required of it. This section was placed under my jurisdiction in the summer of 1918 as one of the administrative functions of the organization.

Considering the great expense of the ship-production activities and the great amount of money that has been passing through our hands, we can congratulate ourselves on the fact that the dishonesties have been so few in number. Those which have occurred have been quickly run down and vigorously prosecuted.

During the war it was naturally regarded as very important that the plants which were engaged in turning out ships for Government use should be thoroughly protected from hostile attacks of any sort. The Emergency Fleet Corporation provided a full complement of guards for each yard, and a force of approximately 10,000 guards was carried on Government rolls. Immediately upon the signing of the armistice the need for this force as a Government agency ceased and a reduction, amounting practically to complete elimination, was ordered.

I speak of this because the plant protection section, which previously had been under the control of the construction side, was brought over to the administrative side.

CONTRACT DIVISION.

One of the first activities of the corporation to receive special treatment and because of its importance to be set up with an independent line of authority was the Contract Division. This division stands out as one of the excellent pieces of organization and management in the corporation.

Chart "B" illustrates the organization as of July, 1918.

By August 1 Mr. Schwab had decided that he could best carry out his work for the corporation by divorcing himself from the details. Very wisely he placed you in charge of the active management of the corporation, specializing on the construction features. J. L. Ackerson was made vice president and assistant general manager to be, under you, in active charge of the construction work. The change in your position has produced excellent results; your intelligent grasp of the details of the organization has made possible single control, and working as we have in entire harmony the change has affected in nowise my ability to carry out the duties which were assigned to me.

LEGAL DIVISION.

As a logical part of this change of executive control, the Legal Division, which had up to that time been under my jurisdiction, was transferred to your office. The work of this division had become so interwoven in all the important transactions in every line of our activity that this step was essential.

INDUSTRIAL RELATIONS DIVISION.

It was at the same time that the industrial relations group was transferred to my jurisdiction. This was done purely in order to strike a better balance between your duties and my own and was not in line with good theoretical organization. However, because of the close cooperation between us it worked well. In the latest organization development the industrial relations activities are being returned as a staff duty to the vice president in charge of construction where they rightly belong.

The industrial relations group, which had theretofore consisted of five separate and almost unrelated activities, was made a line division. The results obtained by this division constitute a record of great credit to the corporation, and will, I believe, stand out as unique in governmental undertakings. Every part of the work of this division has been ably carried on. The labor supply section, education and training section, employment management branch, labor adjustment branch, health and sanitation section, and the safety engineering branch have all been important factors in expanding a body of 47,000 ship workers into an army of more than 400,000 on November 11, 1918. The creation of a staff of 1,098 skilled mechanical instructors and through them the training of more than 80,000 mechanics must be regarded as the greatest piece of work of this kind ever accomplished.

One of the most delicate and yet thoroughly well handled duties of the Industrial Relations Division was that of the draft deferment work. Through an arrangement with the Provost Marshal's office the Emergency Fleet list was established and 202,849 men were placed upon this list. Appreciating the necessity of a careful check on slackers, an intensive examination of all these deferments was made during the summer and, in consequence, 56,414 names were taken from the list. The 146,435 that remained formed a very important part of our skilled mechanical group, and it would have been impossible to have fulfilled our program of construction without them.

To have carried on the organization of the Industrial Relations Division in a logical way, the national service section should have been placed under that division's supervision. Inasmuch, however, as the national service section had been conducting its work inde-

pendently for some time, and as the scope of its activities was decreasing, this section was kept independent and tied into the Director General's Office.

STATISTICAL SECTION.

The work of the statistical section up to this time had been largely historical in character and did not seem to be in keeping with the program of construction which was the single purpose of the organization. It, therefore, was discontinued and a new department created known as the planning and statistics section. The duties of this department were to prepare such specific information as you might require in order to direct intelligently the work of ship construction. With the change of its duties, this section was properly transferred from the administrative to the construction side and was attached directly to your office.

DISTRICT ORGANIZATION.

Along with the working out of the changes enumerated, a study had been made of our district organization and a method provided to concentrate district authority in a single head without dislocating the direct contact of the home office divisions with their district representatives. The original district organization had been built up with a district officer in charge of steel ship construction, a district supervisor in charge of wood ship construction, and a district auditor in charge of finances and accounting, each having independent authority derived direct from the home office. Due to the increasing decentralization of our work and the constantly growing number of special representatives that had to be placed in each district, this plan had proved impracticable and confusing. With the creation of the district manager as the officer of highest rank in district activities, the difficulties were largely solved. In essence, this plan involves a direct line of communication regarding policies and methods between the Home Office Division and its representative in the district, subject, however, to the administrative supervision of the district manager. Where the district representative is overruled by the manager, the former has recourse to the head of his Home Office division, who in turn clears through the Vice President and General Manager.

Chart "C" gives in detail the typical district organization, and Chart "D" indicates graphically the organization as of August, 1918.

STANDARDIZATION OF SALARIES AND TITLES.

While working on the details of the changes in organization, I had become more and more impressed with the disparity in salaries paid for similar work in the various divisions, and with the lack of uni-

formity that had grown up in the minor titles. It seemed to me an essential part of the organization development that some uniform system and salary control should be put into effect immediately. After an intensive study we issued, on November 1, 1918, a Manual on Salaries and Titles, and General Order 134 was published carrying out the provisions of this manual. At first the executive of the various divisions felt that this step was an abridgment of their authority and would tend to interfere with the efficiency of the organization; but all became quickly convinced that it was one of the constructive steps which was taken by the administration, and the development of this work will stand as an example to every large business corporation.

PERSONNEL CONTROL.

In a report of this character it seems best not to attempt a detailed statement of the plan of personnel control which had been developed from the intensive study of the duties, salaries, and titles of the employees in the various divisions and districts. In broad outline the system rests upon the following principles which apply uniformly throughout the corporation:

That compensation and title shall be fixed within definite ranges for definitely stated duties.

That increase in compensation shall be on the basis of meritorious service over definite periods, limited in amount and within definite fixed ranges.

That the number and kinds of positions required for a given activity shall be set up by responsible administrative officers and when approved by the vice president in charge of administration shall constitute a limiting schedule.

That pay rolls shall be passed only when in agreement with authorized schedules.

That it shall be a specific responsibility of administrative officers designated by the vice president as "Appointing officers" to carry out the regulations, and that these appointing officers shall have full authority within the regulations to appoint and discharge employees and fix their salaries.

That in all cases which appointing officers believe require exceptional treatment, recommendations for such treatment shall be made to the vice president in charge of administration and shall be operative only upon his approval.

A complete procedure to make effective the principles outlined has been placed in operation and has been amended and improved from time to time as experience has suggested.

The system provides currently to the executive officers of the corporation a fact basis for the analysis, investigation, and comparison

of personnel cost in the various districts and divisions. Upon this basis, definite allotments of money are made, at stated periods, calculated upon the positions which have been approved in the schedules. These allotments serve as a limitation of the amounts which can be used for the various activities. In the reorganization of the Finance Division a special section has been set up to carry out currently the provisions for the plan. It is expected that allotments made under this system will serve as a basis for controlled accounts throughout the activities of the corporation.

I may add that very recently the chairman of the Shipping Board, and the board itself by special resolution, has requested the extension of this plan of control to cover all activities within the jurisdiction of the United States Shipping Board. This work is already under way.

It was after the second great step in the development of the organization that a personnel section was established. The important duties affecting employment and removal of employees (other than those handled through the general office), activities relating to the physical welfare of the employees of the home office, and the work of assisting in leasing and disposing of houses and apartments were made effective.

The dispensary has been made of great assistance to our people and lately the establishment of a cafeteria on the sixth floor, run at no cost to the corporation, and yet at a very small charge to the employees, has also added to the comfort of the employees.

During the influenza epidemic, it being impossible to provide adequate hospital facilities for all our employees who were stricken with the disease, we rented a large residence at 2101 Spruce Street and used it as an infirmary. Since we could not rent any house that was adequate under a short-term lease, when the necessity for the use of this house as an emergency hospital was ended it was turned into a clubhouse for the women of the corporation and has been a very pleasant center for their social activities outside office hours.

COMPTROLLER.

It was also in the early days of my work here that a change was made in the financial control of the corporation. At that time, there was a general auditor and an assistant auditor. A change in jurisdiction was made and a comptroller appointed in charge of financial examinations, credits, and insurance, while the general auditor remained in charge of accounting and auditing. It was my strong belief that a man of outstanding financial reputation should be brought into the corporation as comptroller and the general financial and accounting procedure reorganized. To this Mr. Schwab

and you agreed and I was proceeding to obtain the services of such a man when it developed that under Mr. Hurley's instructions, Messrs. Marwick, Mitchell, Peat & Co. had begun an audit and survey of our accounts and procedures and were preparing recommendations on changes which would affect both the Construction and Operating Divisions of the Fleet Corporation. It therefore seemed wise to postpone action. After we had delayed instituting changes in our financial procedure and organization for many months in anticipation of the receipt of a constructive proposal from the Marwick, Mitchell, Peat & Co. experts, the reports as finally submitted did not provide any adequate basis for either reorganizing the procedures or changing the assignments of the personnel.

INSURANCE DEPARTMENT.

An important part of the work of the comptroller under the new alignment and one which stands out because it has proved one of the few instruments of great saving which the corporation was able to accomplish, was that carried on by the insurance department. Our policy, in brief, was that the Fleet Corporation should waive fire insurance on all property either belonging to it outright or wherein the insurance expense would be borne by the corporation. We have also carried our own liability risk in three of our agency plants—the American International Shipbuilding Corporation, the Merchant Shipbuilding Corporation, and the Traylor Shipbuilding Corporation. In order to show clearly the saving brought about by this method of handling insurance, we set up a fund equivalent to the market cost of the risk which we were carrying. Against this fund we charged all losses incurred and all expense of overhead attributable to the insurance department's activities, together with the cost of a considerable amount of fire apparatus placed in the various yards.

The results as of April 14, 1919, show the following surprising savings:

Fire insurance	$667,906.00
Marine and builders' risk	10,219,527.00
Automobile	45,753.42
Workman's compensation	113,896.18
Grand total surplus	11,490,055.19

COMMITTEE ON FINANCIAL ADMINISTRATION.

The radical changes in the shipbuilding program of the Fleet Corporation immediately following the signing of the armistice in November, confronted the management with a great many very serious problems of financial administration.

The most pressing problem was to provide ways and means for quickly gathering data pertaining to the financial relations of the

Emergency Fleet Corporation with its contractors as they were affected by the retrenchment policy which the cessation of hostilities had made necessary and at the same time to introduce into the financial procedures of the corporation the changes necessary to transfer from a war to a peace basis. Inasmuch as the regular financial agencies of the corporation were already overburdened with the tremendous routine of auditing and accounting, it was decided to establish a committee on financial administration to undertake the work of reorganization and investigation brought about by the changed conditions of administration. The committee on financial administration was established by General Order No. 152.

The jurisdiction and duties of the committee, as defined in the order of establishment, were to reorganize the accounting and auditing methods of the corporation; to supervise investigative accounting and auditing work being carried on by outside agencies, and to prepare special reports and recommendations dealing with pressing financial questions involved in the financial relations of the Fleet Corporation and its contractors. By confidential executive order of the Director General, the handling of a number of acute cases of financial trouble was specifically delegated to the committee.

The accomplishments of the committee during the four months of its existence may be roughly divided into two principal groups: First, the constructive reorganization work undertaken after a careful survey had been made of the existing auditing and accounting procedures; second, the handling of special cases of financial difficulty with the Fleet Corporation's contractors.

A survey of the existing financial procedures was made and a series of reports prepared pointing out improvements which should be introduced in order to bring the financial control of the corporation on to a sound peace-time business basis. As a result of this survey a plan was developed for organizing a combined finance department and for introducing into the accounting and auditing procedures certain additional activities.

The first work started was the organization of a cost estimates branch to be responsible for the preparation of a combined finance and work program which would keep currently before the management of the corporation statements of the cost of work done to date and estimates of the cost of completing of the work authorized and under way. Under the supervision of the committee cost sheets and cost estimate sheets for all of the work under way were prepared from the home office records and the information so collected transmitted to the districts for review and revision.

It is to be noted that in undertaking this work the committee on financial administration reversed the customary process of informa-

tion gathering in the corporation, and instead of asking the districts to prepare answers to long questionnaires the cost estimates branch gathered together all of the information on costs and cost estimates available in the home office, tabulated the results, and transmitted this information to the districts with the request that it be reviewed and revised where necessary. The results have proved to be even better than expected, for by May 1 detailed costs and cost estimates of more than 1,200 out of 1,700 steel hulls have been received, with the expectation that within the next two weeks the work will have been completed on the entire steel-hull program.

The work on the wood-hull statements has been materially delayed by the cancellation proceedings, but cost sheets for every wood hull under construction, for every tug and barge, for all the concrete and composite ships are now in the hands of the district offices and are there being corrected and revised. It is expected that by the end of May this work will also have been completed.

In undertaking this work the committee on financial administration insisted that wherever information was gathered in the home office or in the districts, that organization machinery be provided for continuing the work so that at quarterly periods hereafter it will be possible to secure, as a matter of administrative routine, an accurate, comprehensive financial statement of the corporation's shipbuilding program.

Another very important work undertaken by the committee was the organization and carrying out of a joint appraisal and inventory study. In conjunction with the Auditing Division, the Supply Division, and the inventory and plant custody section of the Division of Shipyard Plants, the committee on financial administration undertook and is completing an inventory and appraisal of the corporation's plant and property account.

The organization work of the committee may be divided into two parts: First, the organization of a finance division for the Construction Department of the Emergency Fleet Corporation; second, the preparation of an organization report looking to the development of a combined finance organization for the Emergency Fleet Corporation as a whole.

DIFFICULTIES ARISING OUT OF CONSOLIDATION OF OPERATION AND CONSTRUCTION UNDER ONE HEAD.

One of the most serious difficulties which the financial administration of the Construction Department of the corporation has had to overcome has been the complete segregation of the office of the treasurer of the corporation in Washington and the close association of the treasurer's office with the Division of Operations. There has been no unity of plan or purpose, and in consequence a very serious

lack of coordination exists to-day in the financial administration of the Emergency Fleet Corporation as a whole. Inasmuch as this question has been made the subject of a number of separate memoranda, it is not my purpose to burden the record of this report with an extended discussion of either the causes which have brought about the present inconsistencies of financial policy or the remedies which have been proposed. I may add, however, that without a single exception every man of experience in financial administration who has examined into the organization and methods of the Emergency Fleet Corporation has stigmatized this lack of coordination between the finance division of the Construction Department of the corporation and the finance division of the Operations Division of the corporation and the treasurer of the corporation as the most glaring and inexcusable weakness in the organization plan of the Emergency Fleet Corporation.

Either the Division of Operations should be made an entirely separate corporation or the financial administration of the corporation should be made to include all of its financial problems. To continue the present confused decentralization of this work would, in my opinion, be nothing short of folly.

Finding it impossible to effect any immediate organization of the financial affairs of the corporation into one unified whole, it seemed desirable as the next best opportunity to set up the financial organization of the Emergency Fleet Corporation Construction Department on a unit basis, developed in such a fashion that it would lend itself either to consolidation with the proposed general finance organization or continuation as a separate finance unit for the Emergency Fleet Corporation Construction Department. Therefore, after a careful study of the organization and procedure in the comptroller's office and the auditor's office and the various district auditing offices which had been continued practically without change since July of last year, it was decided to consolidate the home-office activities into a single division and to establish the district offices on the basis of a comptrollership representative rather than an auditorship representative. Accordingly, General Order No. 24, establishing the Finance Division and the general outline of its sectional organization, and defining its duties and jurisdictions, was issued. Shortly thereafter, under the authority granted in the general order establishing the Finance Division, the comptroller issued an order establishing the district comptrollerships. Both of these orders, with the attending authorities for signature, have since been approved by the Board of Trustees.

In addition to the work already listed, the committee undertook a number of associated studies, such as the preparation of a series of plans for estimating amounts of reimbursement due to contractors

under the rulings of the Shipbuilding Labor Adjustment Board; the preparation of general orders on inventory and property control; the preparation of general orders on interpretation of the latest Macy board rulings; the formulation of plans for the settlement of wood-ship and dry-dock contracts; the preparation of general and special orders on claim procedure; the preparation of general orders establishing the contracts, claims and cancellations board and the organization of the work of the assistant to the Director General in charge of claims; and many other similar studies involved in the work of strengthening the financial organization and procedure of the corporation.

The special investigating work of the committee, particularly that having to do with the handling of the acute cases of financial difficulty, does not lend itself readily to inclusion in this report without entering into an extremely detailed recital of the various proceedings. I will, therefore, include herein only a short statement of the kind of work undertaken by the Committee on Financial Administration in this field and generally what has been accomplished.

Inasmuch as the Committee on Financial Administration was set up to be a general advisory agency for the management in all matters of financial administration, its work on the special case problems covered a very wide field. This work was carried on under the immediate direction of the chairman of the committee and may be said to have consisted of:

1. The investigation of financial conditions of various contracts through the established financial agencies of the corporation, assisted by a field force of specialists attached directly to the personnel of the committee.

2. The holding of hearings on the appeals of contractors for financial assistance.

3. The preparation of special reports on depreciation, claims, labor reimbursements, etc., referred to the committee for its review by the Director General and the vice president in charge of administration.

The committee has considered and reported upon several hundred questions referred in this manner in more than 30 shipyards and a number of auxiliary plants, and has practically supervised the administration of the Fleet Corporation's financial relations with a number of its contractors whose finances were in a precariously weak condition.

A very strong factor in interesting not only the contractors and the workmen in the yards, but the public at large, has been the publication section. By means of the issuance of the Emergency Fleet News, the Shipyard Bulletin, and other publications, and by the broadcast distribution of posters which stand out as the most telling in any of the Government activities, they visualized and vitalized the work

which we were doing. The publications section carried to the people everywhere the spirit that imbued the Fleet Corporation.

One of the anomalies of our organization was the fact that there was not a union of the work of this section with the general newspaper publicity. However, inasmuch as the latter was controlled through the office of Chairman Hurley and in consequence control of the news publicity at the Philadelphia offices was placed in the hands of his representative, it was not possible to combine these forms of public appeal.

ORGANIZATION AND METHODS SECTION.

An invaluable instrument in the carrying out of my work was the organization and methods section. By its staff examiners studies were made of the procedure in every branch of the corporation's activities, and definite orders drawn as a result of these studies which did away with duplication of effort and misunderstanding and definitized authorities and responsibilities. Besides this important organization work, they carried on studies in many branches of shipbuilding activities which were used effectively by the contractors. Among these I might mention the following:

Development of accounting classifications for analysis of expenditures; establishment of schedules for personnel control and audit of pay roll; establishment of centralized control and decentralized physical location of home office service organizations, such as stenographic, clerical, filing, and messenger branches; development of definite contract procedure; preparation of regulations and procedure on reimbursement to shipbuilders on account of increased cost of labor; development of principles and needs of uniform cost-accounting methods in the shipbuilding industry; development of plan of administration in shipbuilding districts; development of plan and procedure for inventory of plant property and equipment of the Emergency Fleet Corporation; development of plans for the consolidation of all ship-construction activities under a single organization unit; development of jurisdictional definitions and procedure coordinating the activities of the corporation with reference to cancellations, claims, and contracts; and detailed analysis of functions and procedure of the Shipyard Plant Division and preparation of recommendations based thereon.

A very important piece of work of this kind was a report on the uniform cost records for shipbuilders, made by an expert in our employ. Influenced by suggestions embodied in this report, the Atlantic Coast Shipbuilders' Association appointed a committee to make a study of this important matter. Their work has progressed rapidly. There can be no question that the accomplishment of this

uniform system will be far-reaching in its benefits both to the builders and the Fleet Corporation.

At the time of the signing of the armistice the third distinct phase of the organization had been fully developed, and the corporation was in position to carry on its work efficiently and rapidly and at the same time keep a close control on all its activities.

Chart "E" shows the organization as it was then developed and performing its functions with the least possible friction.

Naturally, at this time, an immediate review of our work in every division and independent section was made necessary in order that we might reduce to the lowest point consistent with efficient management both our activities and our personnel.

My feeling at the time was that the efficiency of the organization would be measured by its ability to handle the task of demobilization and reorganization on a peace basis.

Within 90 days after the signing of the armistice all work of strictly a war-time nature had been eliminated; the Steel and Wood Ship Construction Divisions had been united under the name of the Ship Construction Division; the scope of industrial relations had been materially reduced; the national service section, the requirement section, and the statistical work of the planning and statistics section entirely eliminated; the work of the plant-protection section cut down to a peace-time basis and the activities of the Supply Division, concrete-ship section and engineering section greatly curtailed. Such work in housing and transportation as was not essential to put the finishing touches on the work already practically completed was abandoned.

Chart "F" when compared with Chart "C" will give a clear perspective of what took place.

A new division, that of Cancellation, Claims and Salvage, was created to take care of problems brought into existence by curtailment of our program. As a temporary expedient this division served its purpose, but its work has been more recently subdivided and turned over as staff functions to the Director General's office. The past 30 days have seen the final steps of transformation. With the creation of a reviewing body known as the cancellations, claims, and contract board, the membership of which was made up of five of the high executive officers, and the clearance of all problems involving cancellations, adjustments, and contracts obtained through this board prior to submission to the Director General, the last step has been effected.

The organization can be turned over to our successors with a feeling of confidence in its ability to handle effectively the problems that confront it and to continue without interruption the large construction program that lies before it. Although many of the able men who have had the chief responsibility of the corporation during the

past year have left, yet there remains a nucleus familiar with the details and thoroughly competent to carry on. The fact that with the loss of 90 per cent of its chief executives the work of the corporation has not suffered more greatly is proof of the soundness of our organization development.

Although there will continue to be great need of good management, the majority of the important problems have been met and solved. A sound procedure has been laid down upon which to base any future action that may be necessary. Therefore the work now is primarily one of conservation. I trust and believe that the new executives will realize the importance of a thorough study of the structure which has been set up and the precedents which have been laid down before scrapping even its minor parts.

Our craft has sailed a stormy course and at the end of its journey has proven sound in every rivet.

Respectfully submitted.

HOWARD COONLEY,
Vice President in Charge of Administration,
United States Shipping Board Emergency Fleet Corporation.

EXHIBIT A.

ORGANIZATION CHART SHIP CONSTRUCTION DIVISION AS OF APRIL, 1919.

[The Manager of the Ship Construction Division has direct control of District Officers and Managers in all matters pertaining to Ship Construction.]

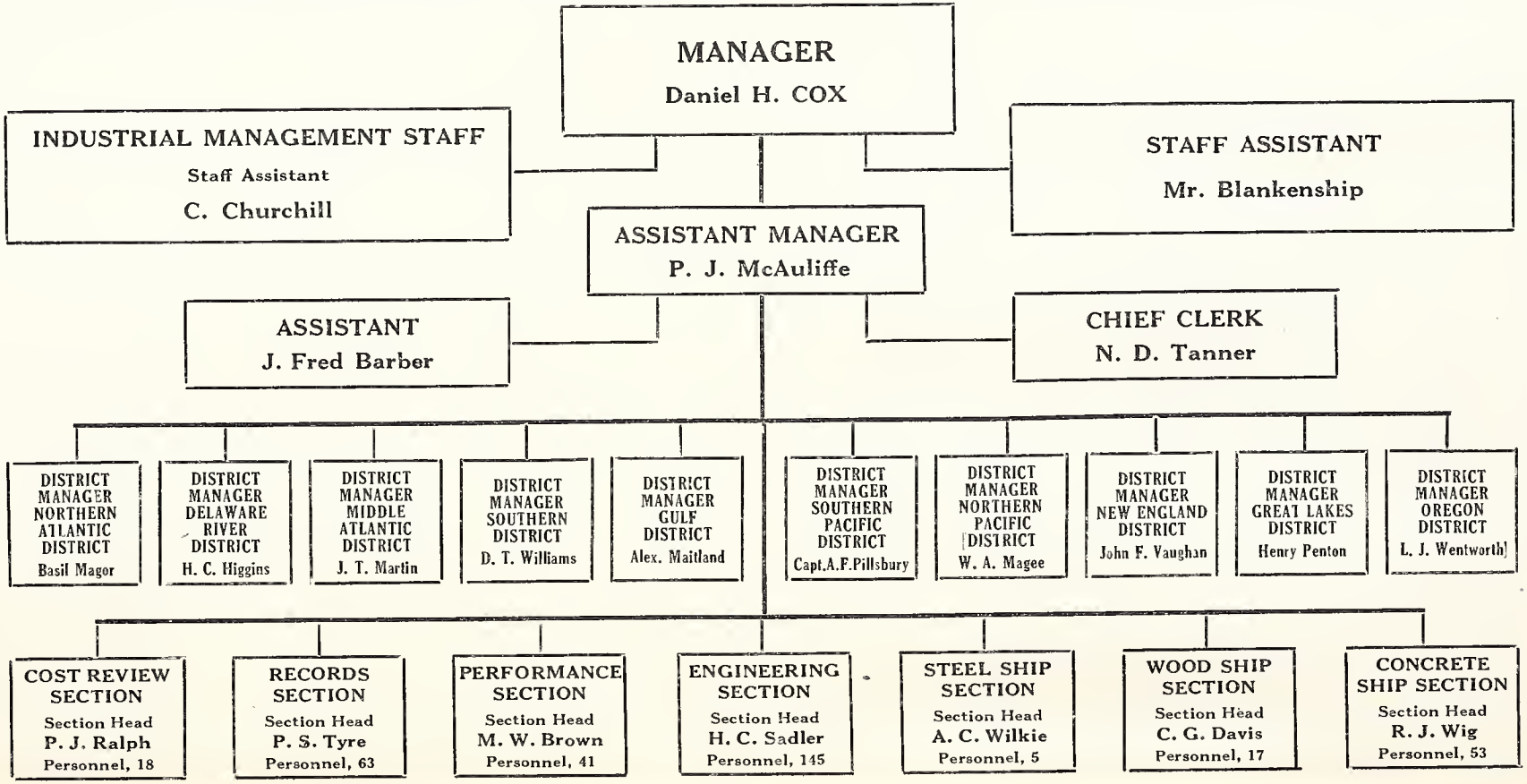


CHART "A" (Organization prior to May 1, 1918)

ORGANIZATION CHART
OF THE
EMERGENCY FLEET CORPORATION

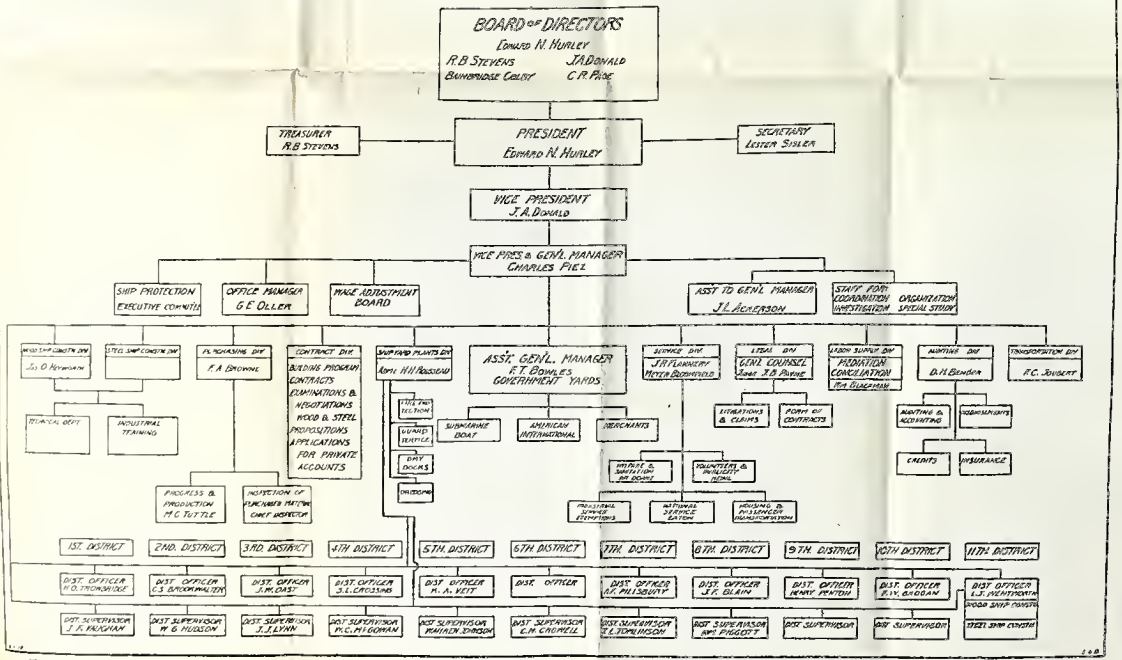


CHART "B" (ORGANIZATION AS OF JULY, 1918)

UNITED STATES SHIPPING BOARD

EDWARD N. HURLEY, CHAIRMAN
A. B. STEVENS, VICE CHAIRMAN — JOHN A. DONALD
BRIGADIER GENERAL GOETHALS — CHAS. H. PAGE
(SEVEN OTHER SHIPPING BOARD MEMBERS)

EMERGENCY FLEET CORPORATION

BOARD OF DIRECTORS: EDWARD N. HURLEY, PRESIDENT — STEPHEN M. BOURNE, VICE PRESIDENT — JOHN A. DONALD, VICE PRESIDENT — H. A. STEVENS — CHAS. H. PAGE — CHIEF CLERK

OFFICE OF SECRETARY: STEPHEN M. BOURNE

CONSTRUCTION OF SHIPS

OFFICE OF TREASURER: GEO. T. SMITH

THE MANAGEMENT
DIRECTOR GENERAL: CHAS. M. SCHWAB
CHAS. PIEZ, VICE PRESIDENT — HOWARD COONLEY, VICE PRESIDENT

GENERAL COUNSEL

OFFICE OF V.P. IN CHARGE OF CONSTRUCTION

VICE PRESIDENT: CHAS. PIEZ

EXECUTIVE ASSISTANTS
STAFF ASSISTANTS AND SPECIALISTS
(PERSONNEL, PURCHASE, INSPECTION)
SECRETARIAL ASSISTANTS

- PASSENGER TRANS. AND OPERATING DEPT.
- PERSONNEL PROTECTION SECTION
- INDUSTRIAL RELATIONS GROUP
- REQUIREMENTS SECTION
- DISTRICT LOCAL AND FIELD ORGANIZATION GROUP

- SHIPYARD PLANTS DIV.
- STEEL SHIP CONSTRUCTION DIVISION
- WOOD SHIP CONSTRUCTION DIVISION
- SUPPLY DIVISION

OFFICE OF V.P. IN CHARGE OF ADMINISTRATION

VICE PRESIDENT: HOWARD COONLEY

EXECUTIVE ASSISTANTS
STAFF ASSISTANTS AND SPECIALISTS
(PERSONNEL AND ORGANIZATION, PURCHASE)
SECRETARIAL ASSISTANTS

- STATISTICAL SECTION
- GENERAL OFFICE
- PUBLICATIONS SECTION

- CONTRACT DIVISION
- FINANCE DIVISION
- AUDITING DIVISION
- LEGAL DIVISION

- DISTRICT NO. 1
- DISTRICT NO. 2
- DISTRICT NO. 3
- DISTRICT NO. 4
- DISTRICT NO. 5
- DISTRICT NO. 6
- DISTRICT NO. 7
- DISTRICT NO. 8
- DISTRICT NO. 9
- DISTRICT NO. 10
- DISTRICT NO. 11
- EXTRA-DISTRICT JURISDICTIONS

SHIPBUILDING PLANTS

(To follow page 71.) No. 2

CHART "C" (Typical District Organization)

CHART I

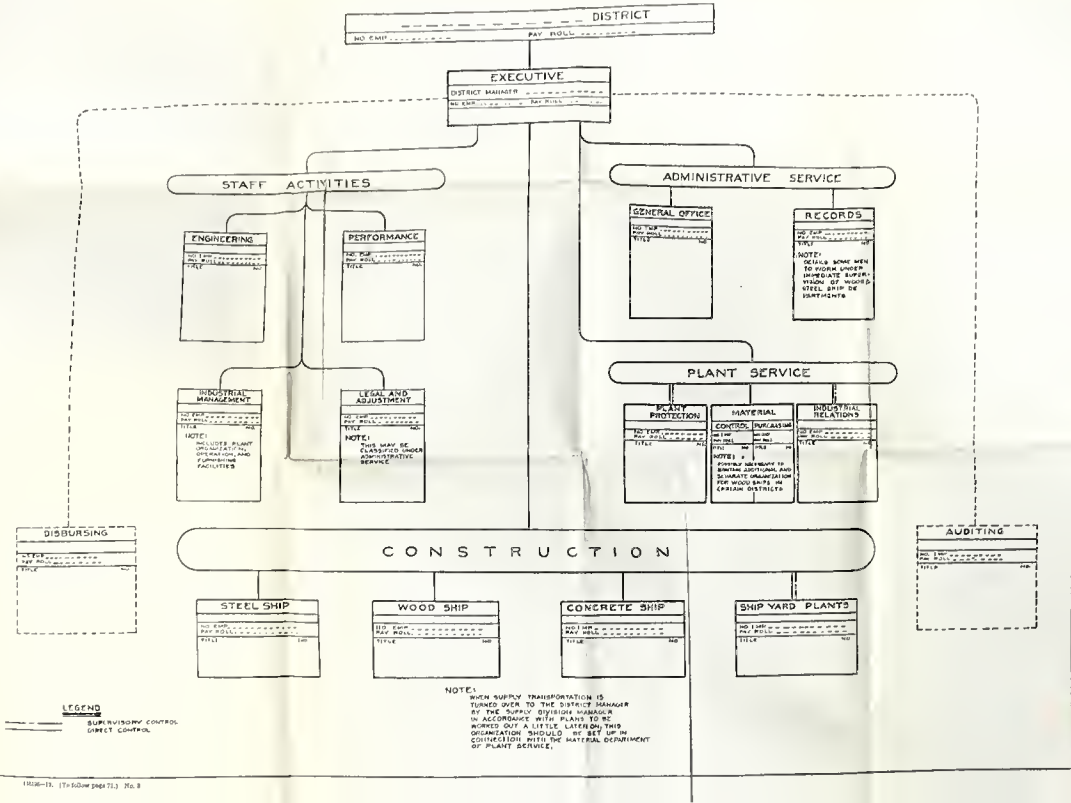
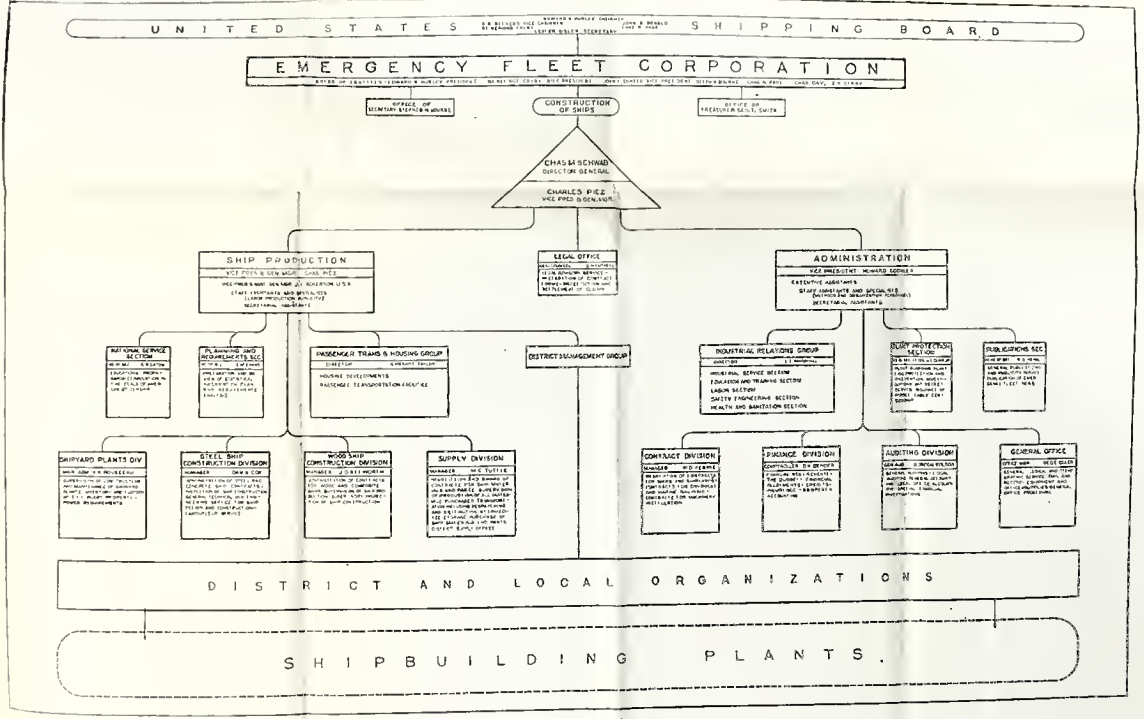
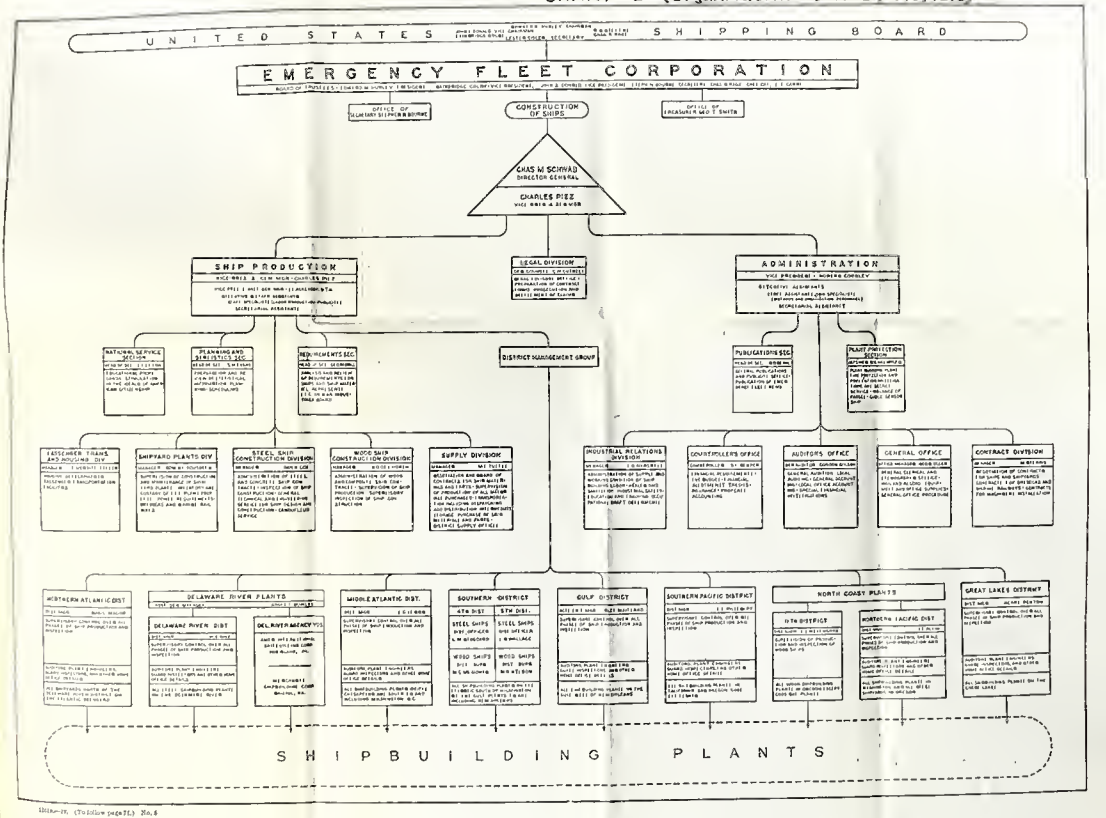


CHART "D" (Organization as of August 1918)



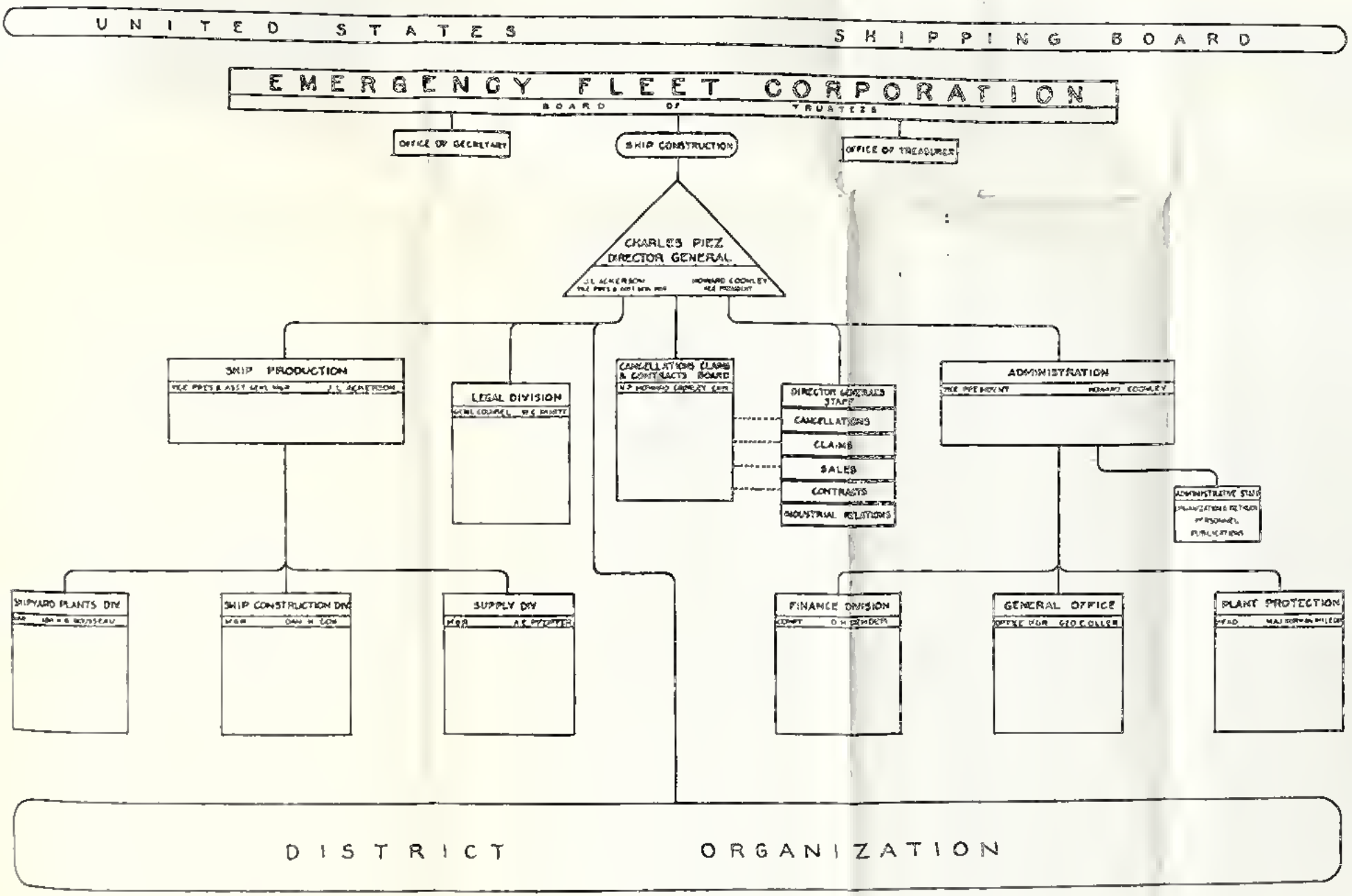
(To follow page 31.) No. 4

CHART "E" (Organization as of Oct. 15, 1918)



(To follow page 7) No. 6

CHART "F" (Organization as of Apr. 30, 1919)



SHIP CONSTRUCTION DIVISION.

REPORT TO DIRECTOR GENERAL CHARLES PIEZ BY DANIEL H. COX, MANAGER, AS OF APRIL 30, 1919.

DUTIES AND ORGANIZATION.

This division is in general charge of the original design of new types of vessels, approval of contractor's designs, administration of all ship contracts, including inspection, approval of all details of construction, certificates of payment, trial trip procedure, acceptances and delivery of vessels, maintenance of records of ship construction, preparation of statistical information of the activities of the Emergency Fleet Corporation, and the handling of all correspondence with other Government departments, contractors, and field organizations on these matters.

The organization chart of the division, both in the home office and in the field (marked "Exhibit A") is transmitted herewith.

Great difficulty was naturally experienced at the outset in securing the necessary personnel properly to conduct the work in hand, as the services of those having knowledge of shipbuilding were so largely drawn upon by the shipyards. As large a number as possible of men qualified to deal with such matters were secured and under their direction an efficient organization has been developed.

In order to intensify construction activity a partition of the Division of Construction into the Division of Steel Ship Construction and the Division of Wood Ship Construction was authorized December 5, 1917, and the Division of Wood Ship Construction began to operate December 10, 1917.

On December 24, 1917, the Division of Wood Ship Construction took control of concrete shipbuilding which had been under the jurisdiction of the Bureau of Standards.

On June 26, 1918, concrete ship construction was placed under control of the Division of Steel Ship Construction.

On January 16, 1919, the Ship Construction Division was created, controlling the activities of steel, wood, and concrete construction.

SHIP CONSTRUCTION PROGRAM.

The entire ship construction program covering steel, wood, composite, and concrete vessels, giving full details of the number already completed, now under construction, and to be completed, segregated

by shipyards, districts, and types of vessels, is already incorporated in your report.

As a matter of interest the following brief summary of the program is submitted, the details being available in the report itself.

NET PROGRAM AS OF APRIL 15, 1919.

[Cancellations and suspensions deducted.]

The program of ships under contract, requisitioned, and contracts pending covers the construction of the following:

	Number.	Dead-weight tons.
Wood, including cargo steamers, barges, and tugs	639	1,869,250
Composite	18	63,000
Concrete	14	88,500
Steel:		
Contract	1,379	9,193,455
Requisitioned	384	2,647,481
Purchased (Japanese)	15	128,820
Total	2,449	13,990,506

MAXIMUM PROGRAM.

The maximum program was reached October 15, 1918, when 3,155 ships, 17,276,318 dead-weight tons, were under contract, requisitioned, and contracts pending.

PROGRAM BY CLASS OF CONSTRUCTION.

	Number.	Dead-weight tons.
WOOD.		
Cargo	305	1,116,550
Finished hulls	113	397,900
Converted barges	69	242,800
Sailing vessels	10	37,000
Barges	30	75,000
Tugs (68 harbor, 44 ocean)	112	(1)
Total	639	1,869,250
COMPOSITE.		
Cargo	18	63,000
CONCRETE.		
Cargo	4	13,500
Tankers	10	75,000
Total	14	88,500
STEEL CONTRACT.		
Cargo	1,166	7,814,455
Tankers	69	656,400
Refrigerator	8	75,200
Transport	16	153,000
Passenger and cargo	45	465,000
Barges	10	29,400
Tugs (8 harbor, 57 ocean)	65	(1)
Total	1,379	9,193,455

[1] No tonnage given.

PROGRAM BY CLASS OF CONSTRUCTION—Continued.

	Number.	Dead-weight tons.
STEEL REQUISITIONED.		
Cargo	294	1,849,604
Tanker	58	560,230
Refrigerator	11	83,000
Transport	7	46,025
Collier	9	70,350
Passenger and cargo	5	38,272
Total	384	2,647,481
JAPANESE PURCHASED (STEEL).		
Cargo	15	128,820

PROGRAM BY TYPE OF SHIP.

CARGO.		
Wood steamers	305	1,116,550
Finished hulls	113	397,900
Converted (barge)	69	242,800
Sailing vessels	10	37,000
Composite	18	63,000
Concrete	4	13,500
Steel:		
Contract	1,166	7,814,455
Requisitioned	294	1,849,604
Purchased (Japanese)	15	128,820
Total	1,994	11,663,629
TANKERS.		
Concrete	10	75,000
Steel:		
Contract	69	656,400
Requisitioned	58	560,230
Total	137	1,291,630
TRANSPORT.		
Steel:		
Contract	16	153,000
Requisitioned	7	46,025
Total	23	199,025
PASSENGER AND CARGO.		
Steel:		
Contract	45	465,000
Requisitioned	5	38,272
Total	50	503,272
REFRIGERATOR.		
Steel:		
Contract	8	75,200
Requisitioned	11	83,000
Total	19	158,200
COLLIER.		
Steel (requisitioned)	9	70,350
BARGE.		
Wood	30	75,000
Steel (contract)	10	29,400
Total	40	104,400
TUG.		
Wood (68 harbor, 44 ocean)	112	.....
Steel (8 harbor, 57 ocean)	65	.....
Total	177	.....

STATUS OF CONSTRUCTION.

	Number.	Dead-weight tons.
DELIVERIES.		
Wood	138	484,900
Composite	9	31,500
Steel:		
Contract	248	1,509,775
Requisitioned	313	2,041,861
Purchased (Japanese)	15	128,820
Total	723	4,196,856
SHIPS BEING FITTED OUT IN WET BASIN.		
Wood	259	825,250
Composite	7	24,500
Concrete	1	3,000
Steel:		
Contract	210	1,250,691
Requisitioned	23	183,670
Total	500	2,287,111

SHIPS ON THE WAYS.

[Cancellations and suspensions deducted.]

Wood	227	559,100
Composite	2	7,000
Concrete	11	70,500
Steel:		
Contract	382	2,588,423
Requisitioned	28	253,250
Total	650	3,478,273

SHIPS ON PROGRAM ON WHICH KEELS HAVE NOT BEEN LAID.

[Cancellations and suspensions deducted.]

Wood, tug (9 harbor, 6 ocean)	15	[1]
Composite		
Concrete	2	15,000
Steel:		
Contract	539	3,844,566
Requisitioned	20	168,700
Total	576	[2] 4,028,266

[1] No tonnage given.
[2] Since the above figures were prepared on Apr. 15, 10 more ships of 92,400 dead-weight tons have been canceled.

TOTAL NUMBER OF KEELS LAID.

[Cancellations and suspensions deducted.]

Wood	624	1,869,250
Composite	18	63,000
Concrete	12	73,500
Steel:		
Contract	840	5,348,889
Requisitioned	364	2,478,781
Purchased (Japanese)	15	128,820
Total	1,873	9,962,240

SHIPS HAVING KEELS LAID SUSPENDED OR CANCELED.

	Number.	Dead-weight tons.
WOOD.		
Cargo	67	237,500
Barges	2	5,000
Tugs (2 harbor, 2 ocean)	4	(1)
Total	73	242,500
COMPOSITE.		
Cargo	6	21,000

[1] No tonnage given.

POLICY OF BUILDING PROGRAM.

(A) WOODEN VESSELS.

At the outset when a demand for additional tonnage was first presented to the Shipping Board it was considered by those in charge that on account of the difficulties of creating new shipyards qualified to build steel vessels, the facilities of existing steel shipbuilding yards then being largely occupied by the naval program, more prompt results would be secured by placing orders for a large number of wooden vessels.

A comprehensive program of wood ship construction was accordingly entered into, a large number of new concerns having agreed to undertake this work, the program thus commenced in the early days of the Fleet Corporation's activities, with certain additions subsequently made, having been carried forward with the greatest possible expedition.

Owing to the difficulty in securing competent workmen and satisfactory material for the construction of these vessels, the time necessary for their completion was found to be much greater than was originally anticipated.

As a result, upon the signing of the armistice, the Fleet Corporation found itself with a large number of uncompleted wooden vessels in various stages of construction and with a number of contracts in existence for wooden vessels on which actual construction had not yet commenced. Active steps were immediately taken in all cases, where the work of construction had not advanced too far, either to abandon the construction of such vessels altogether or, where possible, to complete them as barges, or as hulls only without machinery with the purpose of disposing of them as completed. This procedure has resulted in the saving of a very considerable expenditure of Government funds.

The majority of the wooden vessels contracted for were of 3,500 dead-weight tons capacity, it being considered that a wooden steamer

of any larger dimensions would involve serious difficulties in construction.

Efforts were made, however, to develop a satisfactory design for a 5,000 dead-weight ton wooden steamer, and had the immediate requirements for tonnage not been met by the deliveries of steel vessels, a number of vessels of this size would undoubtedly have been constructed as an emergency measure.

(B) COMPOSITE VESSELS.

Coincident with the commencement of the wood shipbuilding program, was a limited program of composite vessels, which program has been considered in practically the same manner as that of the wooden vessels. In spite of the expectations of proponents of this type of ship, it has proved very costly to build and has required a long time for construction.

(C) STEEL VESSELS.

The steel ship program, which was actively commenced in May, 1917, has been divided into two classes of vessels, requisitioned and contract. After mature deliberation it was determined that in addition to placing new contracts for steel vessels, as an immediate step toward securing promptly the necessary tonnage, the construction of all such vessels in the shipyards in the United States of seagoing dimensions, other than those for the Navy Department, should be taken over by the Emergency Fleet Corporation irrespective of the owners for whom these vessels were contracted or under construction.

Requisitioned vessels.—Accordingly, on August 3, 1917, the requisitioning order was issued by which each shipyard in the country was informed that the Emergency Fleet Corporation would take over the control of, and would complete for its own account, the construction of all seagoing steel vessels of 2,500 dead-weight tons or over then under way in the various shipyards.

The procedure which was followed in the case of these requisitioned vessels, including the establishment of the necessary organization in the home office and in the field, was originated in the Ship Construction Division and formed a basis for the final organization which has been created and the final procedure which has been followed in the administration of the entire shipbuilding program.

As a result of the requisitioning order, the shipyards were permitted to continue without interruption the construction of the vessels upon which they were engaged, which secured much greater expedition than would have resulted had new orders been placed for different types of vessels and had the construction of the vessels requisitioned been deferred, inasmuch as the preparation for build-

ing any type of vessel requires months of preliminary work before actual building can commence.

Contract vessels.—Upon making a careful survey of the shipbuilding situation it was found that certain of the yards already engaged in the building of steel vessels for foreign or domestic account were in a position to take additional orders, and such yards were promptly given contracts for, and continued to build, additional vessels of the same type as those in whose construction they were engaged at the time.

As the demand for vessels still further increased it became evident that additional shipbuilding facilities would have to be created to meet the demands, and from the time of the beginning of hostilities until the middle of 1918 there was a continual addition to the shipbuilding facilities of the country, either in the form of new shipyards or of enlarging the facilities of existing shipyards.

The largest undertakings of this nature have been the original agency yards—the American International Shipbuilding Corporation with 50 ways, the Merchants Shipbuilding Corporation with 12 ways, and the Submarine Boat Corporation with 28 ways, the Carolina Shipbuilding Co. with 4 ways, and the 5 concrete yards. In addition to these undertakings, financed entirely with Government funds, considerable financial assistance has been rendered by the Fleet Corporation to many of the shipbuilders establishing new plants or increasing their facilities.

In assigning contracts for steel vessels, all possible attention was given to the creation of a properly balanced fleet having the necessary number of vessels of various sizes and types, in so far as this could be accomplished, having in mind the absolute necessity for rapid construction and delivery of vessels and the facilities of the shipyards.

The demands of the War Department in March, 1918, called for a considerable number of large and swift transports. The great importance of this type of vessel and their usefulness, not only from a military point of view in time of war but as a means of transportation of passengers and cargo in time of peace and for such permanent service as the War Department might require, can readily be appreciated. Most carefully prepared designs were developed of vessels well qualified either for transports or for high-class passenger and cargo service.

A certain number of these vessels were contracted for, taking advantage of such facilities as existed for their construction, but early in the spring of 1918, when the demand for vessels of all types became increasingly urgent, additional ways and shop facilities were provided in certain of the larger shipyards for the express purpose of building these large vessels and as many additional contracts were

placed for their construction as could be completed in a reasonable time.

Due to the intense stimulation of the shipbuilding program, the rate of construction of steel vessels and their engines, boilers, and equipment, was steadily increasing monthly until the signing of the armistice, when immediate steps were taken to reduce the cost of construction even at the expense of a slower rate of vessel building. As a result of a review of the program since made, a certain number of suspensions and cancellations of steel vessel contracts have been put into effect for the purpose of reducing the number of vessels of types that were not highly desirable, an effort being made to retain as many as possible of the vessels of satisfactory type and construction, among which were included the transports whose design was changed so that when completed they would, with the exception of a few needed for permanent service by the War Department, be adapted for high grade passenger and cargo trade.

NUMBER OF SHIPYARDS.

The following facts regarding the number of shipyards engaged in the program and the number of contracts placed are of interest.

At the outbreak of the war, April, 1917, there were in the United States 37 steel yards having a total of 162 shipways, and 24 wood yards having a total of 72 shipways, capable of constructing ships of 3,500 dead-weight tons and over.

As of March 1, 1919, there were in the United States the following:

Shipyards.	Number.	Completed ways.	Shipyards.	Number.	Completed ways.
Steel-ship yards	67	420	Wood-tug yards	18	70
Steel-tug yards	4	21	Wood-barge yards	9	23
Wood-ship yards	77	357			
Concrete-ship yards	6		Total	181	891

All shipyards are practically 100 per cent completed.

NUMBER OF SHIP CONTRACTS.

The first Emergency Fleet Corporation contract for the construction of ships was awarded April 29, 1917.

At the present time there have been awarded approximately 520 contracts for the construction of ships to be built in 186 yards in the United States.

FOREIGN CONTRACTS.

As a result of insufficient man power to utilize the full advantage of the shipbuilding establishments in this country, and owing to the inability of foreign countries to secure steel necessary for shipbuild-

ing, although they had available the necessary labor supply, after considerable negotiation certain contracts with foreign countries were placed by the Shipping Board for the construction of cargo vessels.

These contracts included the construction of 30 vessels in Japanese yards and 4 in a Chinese yard, the steel and part of the equipment being provided by the United States, and in the case of the Japanese contracts, it was further arranged that 15 vessels already completed in Japan or then under construction in that country were sold to the Shipping Board for prompt delivery in part exchange for steel tonnage. Steel sufficient to construct 2 vessels for Japanese interests was shipped in exchange for each vessel of the 15 delivered.

(*f*) *Concrete vessels.*—During the intense pressure for tonnage of every type of ship that could be produced, a program of concrete ship construction was undertaken, which required the creation of new shipbuilding facilities where this particular class of construction could be carried on without interference and under proper conditions.

Specially trained engineers were secured to develop and handle this new industry and great development in the design and construction of concrete vessels followed. As a result of the signing of the armistice, pressure being relieved for tonnage, the concrete ship program was reduced to the minimum, it being arranged only to complete such vessels as, on account of their state of completion, could not be abandoned without great loss.

The construction of these vessels is being watched with the greatest interest and extreme care is being taken in every particular to secure the best possible results.

The first concrete vessel designed by the Emergency Fleet Corporation will be delivered in May, 1919.

The construction of the concrete vessels is, with one exception, being carried out in shipyards financed by and under the direct control of the Emergency Fleet Corporation, the contractor being the agent of that corporation.

SUMMARY OF PROGRESS.

In order to present briefly the progress that has been made in the shipbuilding program the following summary of deliveries, launchings, and keel layings is submitted.

It is interesting to note the rapid increase in the rate of vessel building as the new shipyard, and added facilities of the older yards became available, and as the number of shipworkers increased.

First delivery.

	Contract date.
Contract steel	Jan. 5, 1918
Wood	May 27, 1918
Composite	Aug. 28, 1918

Record month for deliveries.

October, 1918:

Number	76
Tons	394,500

The *Crawl Keys*, a 3,350 dead-weight ton steel contract cargo ship, built by Great Lakes Engineering Works, located at Ecorse, Mich., holds the steel ship record as being completed in the shortest length of time, which is 29 working days from date of keel laying to delivery.

The *Aberdeen*, a 4,000 dead-weight ton wood ship built by the Grays Harbor Motor Ship Corporation, located at Grays Harbor, Wash., holds the wood ship record as being completed in the shortest length of time, which is 27 days from date of keel laying to delivery.

Summary of deliveries.

Date.	Wood.		Composite.		Steel contract.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
Jan. 1 to June 30, 1918	6	21,500	.....	.....	19	135,700
July 1 to Dec. 31, 1918	106	378,400	5	17,500	143	813,925
Jan. 1 to date	26	85,000	4	14,000	86	560,150
Total	138	484,900	9	31,500	248	1,509,775

Date.	Steel requisitioned.		Steel purchased.		Total.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
July 1 to Dec. 31, 1917	49	301,809	.....	.....	49	301,809
Jan. 1 to June 30, 1918	142	913,422	2	15,837	169	1,086,459
July 1 to Dec. 31, 1918	106	706,930	12	103,879	372	2,020,634
Jan. 1 to date	16	119,700	1	9,104	133	787,954
Total	313	2,041,861	15	128,820	723	4,196,856

Ships delivered.

	Number.	Dead-weight tonnage.
CONTRACT STEEL.		
1918—January	1	8,800
February	1	8,800
March	1	8,800
April	1	8,800
May	6	37,050
June	9	63,450
July	18	110,000
August	19	106,950
September	22	110,950
October	28	148,500
November	35	167,250
December	21	170,275
1919—January	12	91,700
February	20	142,100
March	25	164,850
April (estimated)	90	490,275
Total	309	1,838,550
REQUISITIONED STEEL.		
1917—September	8	43,424
October	13	85,085
November	17	76,310
December	11	96,990
1918—January	10	82,611
February	15	115,850
March	19	153,400
April	29	154,005
May	36	218,391
June	33	189,135
July	19	102,405
August	22	129,095
September	23	150,000
October	17	134,800
November	17	135,625
December	8	55,005
1919—January	3	27,600
February	7	52,800
March	5	32,000
April (estimated)	6	52,220
Total	318	2,086,781

	Number.	Dead-weight tonnage.
JAPANESE.		
1918—June	2	15,837
July	3	24,788
August	3	25,670
September	1	6,695
October	2	17,808
November	2	19,807
December	1	9,111
1919—January	1	9,104
February	.....	.....
March	.....	.....
Total	15	128,820
WOOD.		
1918—May	1	3,500
June	5	18,000
July	5	18,000
August	20	71,500
September	25	92,500
October	30	107,700
November	10	34,000
December	15	54,700
1919—January	4	14,000
February	8	21,500
March	8	28,500
April (estimated)	12	45,400
Total	143	509,300
COMPOSITE.		
1918—August	2	7,000
September	1	3,500
October	1	3,500
November	.....	.....
December	1	3,500
1919—January	1	3,500
February	2	7,000
March	.....	.....
April (estimated)	4	14,000
Total	12	42,000

First ship launched.

Contract steel	Nov. 24, 1917
Wood	Dec. 1, 1917
Composite	May 30, 1918
Concrete	Dec. 4, 1918

Record month for launching.

July, 1918:

Number	124
Dead-weight tonnage	634,750

Ships launched.

	Number.	Dead-weight tonnage.
CONTRACT STEEL.		
1917—November	1	8,800
December	2	17,600
1918—January	1	8,800
February	3	21,150
March	6	51,650
April	7	45,850
May	14	85,025
June	35	74,300
July	29	218,725
August	40	215,525
October	41	244,700
November	39	230,200
December	51	327,525
1919—January	33	186,625
February	45	268,575
March	64	387,158
Total	424	2,566,858
REQUISITIONED STEEL.		
1917—April	2	12,500
May	3	20,330
June	4	24,400
July	7	39,835
August	16	126,949
September	12	63,480
October	17	116,376
November	19	135,805
December	21	134,730
1918—January	15	103,700
February	23	132,200
March	27	167,166
April	22	119,880
May	28	164,530
June	13	77,050
July	33	217,325
August	17	119,130
September	19	146,125
October	6	51,975
November	10	82,800
December	8	59,825
REQUISITIONED STEEL—contd.		
1919—January	3	26,100
February	7	50,120
March	4	33,200
Total	336	2,225,531
WOOD.		
1917—December	2	7,500
1918—January	.....	.....
February	5	18,500
March	11	40,000
April	17	59,500
May	31	112,200
June	22	78,700
July	54	191,700
August	34	111,850
September	31	110,200
October	33	103,700
November	32	109,200
December	29	79,850
1919—January	26	82,500
February	15	44,400
March	22	60,700
Total	364	1,210,500
COMPOSITE.		
1918—May	1	3,500
June	1	3,500
July	2	7,000
August	3	10,500
September	3	10,500
October	.....	.....
November	3	10,500
1919—January	.....	.....
February	2	7,000
March	.....	.....
Total	15	52,500
CONCRETE.		
1918—December	1	3,000

First keel laid.

Contract steel	July 29, 1917
Wood	May 15, 1917
Composite	Sept. 27, 1917
Concrete	May 24, 1918

Record month for keels laid.

October, 1918:	
Number	12
Dead-weight tonnage	645,74

Keels laid.

	Number.	Dead-weight tonnage.
CONTRACT STEEL.		
1917—July	1	8,800
August	4	35,200
September	1	8,800
October	2	18,800
November	9	70,950
December	13	107,325
1918—January	17	114,425
February	29	185,725
March	45	295,050
April	43	283,025
May	44	273,600
June	44	279,875
July	70	453,700
August	56	344,808
September	66	386,950
October	73	466,666
November	55	361,508
December	67	400,383
1919—January	48	316,208
February	51	313,625
March	66	403,233
Total	804	5,128,656
REQUISITIONED STEEL.		
1916—April	1	8,130
May	1	7,500
June	2	18,530
July	4	42,900
August	2	17,800
September	1	7,000
October	6	36,300
November	9	54,230
December	4	32,800
1917—January	10	101,600
February	7	53,986
March	13	111,316
April	23	155,724
May	25	159,985
June	17	89,730
July	10	59,175
August	14	87,780
September	20	101,105
October	17	90,360
November	28	184,300
December	17	107,480
1918—January	16	90,425
February	17	94,700
March	16	103,555
April	16	111,200
May	18	125,100
June	9	60,720
July	13	127,025
August	6	45,950
September	5	31,900
October	7	46,375
REQUISITIONED STEEL—contd.		
1918—November	3	28,500
December	2	19,000
1919—January	3	23,300
February	2	13,300
Total	364	2,478,781
WOOD.		
1917—May	4	15,000
June	3	11,500
July	10	35,000
August	32	113,000
September	39	144,700
October	39	136,500
November	55	191,000
December	39	135,500
1918—January	26	92,000
February	24	87,000
March	21	75,150
April	29	89,900
May	32	86,000
June	32	109,350
July	47	152,200
August	44	142,700
September	37	90,350
October	44	88,200
November	36	46,700
December	17	17,500
1919—January	3	.....
February	4	5,000
March	5	5,000
Total	622	1,869,250
COMPOSITE.		
1917—September	2	7,000
October	6	21,000
November	3	10,500
December	3	10,500
1918—January	4	14,000
Total	18	63,000
CONCRETE.		
1918—May	1	3,000
June	.....	.....
July	.....	.....
August	1	3,500
September	.....	.....
October	3	18,500
November	6	41,000
December	1	7,500
Total	12	73,500

SLUMP IN PRODUCTION UPON SIGNING OF ARMISTICE.

The sharp falling off of production, which shows so conspicuously in the launchings and deliveries for December, January, February, and March, while chiefly due to the natural relaxation upon the signing of the armistice, was augmented by other important factors, which, acting simultaneously with this relaxation, created an unusual slump.

Overtime was practically abolished.

The changes, making for quality instead of quantity production, were promptly made, causing expected delay.

The close of navigation on the Great Lakes shut off deliveries from that district from November 15 to April.

The Christmas holidays and the winter season produced the usual effect.

The Seattle strike, and minor strikes throughout the country, contributed to the slump, and their effect is still felt.

FOURTH OF JULY LAUNCHINGS.

A great launching program was arranged for the Fourth of July, 1918. The Moore Shipbuilding Co. had previously arranged to celebrate the day with a triple launching. The Division of Steel Ship Construction, upon learning of this, took up the idea and arranged a launching program throughout the southern Pacific district, the launching dates being favorable. Later the program was extended to the entire country to all types of ships, and the arrangements developed into a national carnival which attracted the attention of the world and became historically significant.

In large cities bulletins were posted during the day which indicated the time of the launching of each ship; 95 vessels of 476,164 dead-weight tonnage went into the water on the Nation's birthday, a world's record for one day.

Striking and dramatic features attended the celebrations at the various yards, among which were four triple launchings.

The carnival furnished a sane and practical celebration for the Fourth, took first place in importance, for the time, among war activities in this country, raised the morale of the allies at a critical time, and must have put great courage and assurance into the ears of the troops at the front.

Congratulatory telegrams were received by the Director General from President Wilson, Gen. Pershing, and Lloyd's Register, of London.

NUMBER OF SHIPYARD EMPLOYEES.

At the outbreak of the war it has been estimated that there were approximately 50,000 experienced shipbuilders in the United States.

As of January 31, 1919, there were 301,627 employees engaged in the various yards as shipbuilders constructing for the Emergency Fleet Corporation.

The maximum number of shipbuilders engaged in the construction of wood and composite ships was attained October, 1918, at a figure of 80,532. In the case of employees engaged in the construction of steel ships, the figures show a consistent increase from month to month.

PRODUCTION.

During the war period when the urgent demand was for the maximum delivery of tonnage, in the minimum time, everything possible was done, eonsistent with a reasonable regard for the charaeter of construetion, to expedite the construction in each shipyard in the country, of vessels of the type they were aecustomed to build.

While it was not desirable to insist on the building of identical ships in the various yards, a strong effort was made to reduce the number of types to a minimum, and in most instances each shipyard was employed in building but one, or at most, two types of vessels. The specifications for vessels were standardized so far as possible in order to make the various machinery installations, auxiliaries of various kinds, and equipment, interchangeable among the various types of vessels; and further to provide in the structure of the vessels as small a number of different sizes and weights of shapes and plates as could be arranged. This carefully eonccived plan was found most effeetive, and greatly aided the manufacturers of material and equipment in supplying the pressing needs of the shipyards.

The shipyards were hampered as little as possible by unnecessary inspeetion, and eertain refinements in construction that would in peaee times have been required, were omitted.

EXPEDITING CONSTRUCTION.

While it was elearly realized that overtime if used extensively was not only extremely eostly but destructive of organization and of efficiency, owing to the seareity of workmen which made it impossible in most instances to work more than one shift of men, a very large amount of overtime was employed during the period of the war. This action, while costly, did undoubtedly result in increasing the tonnage delivered and was justified by the eircumstances.

Realizing that the spirit of competition properly applied would be a most effective way of inereasing the rate of shipbuilding, competitions were instituted in various trades at the yards, particularly in the case of riveting which is a controlling factor in the completion of a vessel. These riveting contests served a distinct purpose, calling attention as they did to the possibilities of a much greater rivet drive than was ordinarily seeured, and these eompetitions were continued until such time as they had served their purpose when they were discontinued.

Similar competitions were inaugurated between the shipyards themselves based on the actual rate of shipbuilding in the various yards, and monthly awards were made to the yards showing the best records, and it was found that this action resulted in a spirit that was distinctly productive of results.

In order to be able to point out to the yards making unsatisfactory progress, in what respect their performance was inferior, and to take proper notice of the results secured in efficient yards, extremely careful comparative statistics have been kept of the performance in all yards. This information has been widely distributed and has been of great benefit to many of the shipyards.

STANDARD PRACTICE.

The work of comparing the performance of the various yards, of investigating unsatisfactory conditions in yards not making good progress, and of making suggestions relative to improvement in management and operation has been intrusted to the Standard Practice Branch, which has produced excellent results. The work of this branch is described as follows:

OBJECT.

To develop best practices from actual accomplishments and place this information at the disposal of all shipyards in the form of bulletins to be issued by the Division of Steel Ship Construction.

To act in an advisory capacity to the management of shipyards, to assist in the solution of problems of organization and management when such assistance is requested.

METHOD.

For development of standard practices to send to the various yards men qualified to make thorough analytical studies of conditions and methods as they exist. This involves access to records, statistics, and other data sufficient to make complete and usable reports from which to compile standard practice instructions.

To make mutually agreeable working arrangements with individual yards requesting advisory service.

ATTITUDE.

The field organization will avoid all manner of criticism and confine themselves strictly to the work in hand without interrupting or disturbing current activities at the yards.

They will avoid offering recommendations or suggestions affecting existing conditions unless specifically requested to do so by the proper authority, and then only with the approval of the home office.

They will conduct their operations with a view to completion in the shortest possible time consistent with effective and useful results.

UNUSUAL RECORDS IN NEW YARDS, AND YARDS WHICH HAVE BEEN ENLARGED.

The following records indicate the great success which has attended the project of building certain new yards for merchant work:

The Skinner & Eddy Corporation, whose shipbuilding work dates practically from the outbreak of the European war, has delivered to the Emergency Fleet Corporation 36 cargo vessels with a total capacity of 320,200 dead-weight tons.

The work of the Great Lakes district expanded so that during 1918 vessels to the capacity of 558,000 dead-weight tons were delivered. This production shows the degree of expansion best when compared with the greatest recent annual prewar output of the entire country, which was about 488,000 dead-weight tons in 1916.

The Los Angeles Shipbuilding & Dry Dock Co., whose six-way plant was not started until May, 1917, has delivered 11 ships of 8,800 dead-weight tons, 96,800 dead-weight tons in all, and has 6 ships being fitted out in the west basins.

The Southwestern Shipbuilding Co. launched an 8,800 dead-weight ton vessel 115 days after the six-way plant was commenced. This yard now produces the equivalent of one 8,800-ton vessel every 20 days. The contract for the building of the yard was signed in March, 1918. Three vessels have now been delivered, although scarcely a year has passed since work on the plant was started.

The Northwest Steel Co., whose shipbuilding work also dates from the beginning of the war, has delivered 20 vessels of 176,000 total dead-weight tons capacity.

HOG ISLAND.

Most of the criticisms of the Hog Island enterprises have come from the uninformed.

The idea of the "fabricated ship" is a development of the system of building a hull entirely from mold-loft templets, which was inaugurated at the New York Shipbuilding Co. in 1899. Since that time ship fitting and the lifting of templets from ship has been gradually reduced to a minimum in all other American yards. The system in use at Hog Island and other so-called fabricating yards varies from the universal modern American practice only in that the greater part of fabrication is done by structural and bridge shops and not at the shipyard, a natural arrangement under war conditions if not otherwise, since templets are now universally made for the complete hull independently of erection on the ways and with the virtual elimination of ship fitting.

The expenditures were fully justified by war conditions. Had the war continued and had Hog Island been a failure, the cost to this

country could scarcely have been counted. The building of the largest shipyard in the world, which was alone to produce more tonnage than Great Britain, had universal approval. To make good, the yard had to assemble 30,000 shipbuilders, almost twice the number employed in normal times in the whole Delaware River district, and the men were obtained at a time when in and around Philadelphia $2,000,000,000 worth of war contracts had been placed. Under the conditions both the building of the plant and the building of the ships, from an engineering standpoint, called for what would be known as "waste" in normal times. Two men who could at the start produce only the work of one efficient man would necessarily be employed in order that the equivalent of one man's work should not be lost, and the war with it.

Hog Island now delivers a ship a week and produces on the ways the equivalent of two ships a week, which exceeds the production of any shipyard in the world. There are 50 ships under construction on the ways and 13 being fitted out in the basins. Eleven ships have been delivered and those in service have performed extremely well, being in all respects satisfactory to their operators.

As an economic measure no one would attempt to defend Hog Island as a peace-time venture. As a war undertaking, with the vast possibilities of production and the moral effect secured from the magnitude of the undertaking, this gigantic enterprise is not subject to criticism. Its effect was well worth the expenditure of effort and money.

CHECKING COST OF CONSTRUCTION.

While under the extreme pressure imposed upon all those concerned with the shipbuilding program, it being clearly established that cost was to be considered of secondary importance when compared with time of delivery, the cost of ship construction was necessarily excessive when judged by prices in normal times and under normal conditions.

Much of this excessive cost was directly chargeable to the increase in wage scale, the rise in price of material, the inefficiency of labor, and the necessity for a large amount of overtime.

In order as far as possible to keep the costs within reason, and as a check against extravagance and inefficiency, a special section was created composed of men well versed in ship costs and competent to pass judgment upon the value of changes and extras ordered on vessels in addition to the contract requirements.

Through this section the charges on all the vessels in the country for claims in addition to the contract price have been carefully compared and checked, with the result that the entire matter has been

placed upon a businesslike basis under which the interests of the Fleet Corporation are well protected.

In addition, overtime has been eliminated except in cases of emergency, and the shipbuilders have been urged to improve the efficiency of their organizations by discharging incompetent workmen. As a result, there is a gradual lessening in the cost of construction which is expected will continue until a reasonable level is reached.

QUALITY.

Immediately upon the signing of the armistice, the ship production program was placed upon a quality basis instead of upon a production basis, good workmanship and design together with economical methods of construction being made the controlling features, the time required for construction not being of major importance.

Under these conditions immediate steps were taken by those in charge of the program to analyze the various types of vessels that were under contract at the time and see in what respects it might be possible by modifying those vessels to improve in any way their efficiency or usefulness. At the same time a careful study was made of the requirements of shipping in the future, and a building program is now being considered including such types of vessels, particularly those of larger size and greater speed, as have been determined to be essential for the carrying trade of the country in the future.

Appreciating the urgent necessity of having the vessels as built and delivered ready for continuous service, highly qualified engineers were secured, forming the nucleus of the performance section responsible for conducting trials of vessels.

The greatest possible care was given to the engineering details of all of the vessels, and the routine in connection with inspection and trial trips of vessels was developed with the intention of discovering any possible difficulty in construction or installation on each ship before she should be placed into service. An accurate record has been kept from an engineering point of view of the performance of each vessel, on trial and in service, so that future construction could be improved as a result of this information.

The good results of this rigorous inspection while under construction and during delivery, coupled with the great care in scrutinizing the engineering details of the original designs of the vessels has been most effective. A careful record has been kept from the beginning of the troubles that have been experienced with vessels after they have been placed in service and a study of these records shows that notwithstanding the greatly increased and increasing number of vessels in service, the actual reports of difficulties experienced with these vessels have decreased to a marked degree.

MACHINERY FEATURES.

When the extreme pressure for tonnage existed, it was necessary to use as prime movers such machinery, including main engine boilers, and auxiliaries, as could be produced with the existing facilities and make it possible to equip promptly the large number of vessels under construction. No time was available for experimentation or development of new ideas, or refinement in engineering practice. Inasmuch as the manufacturing facilities of the country made it possible to secure promptly a greater number of geared-turbine units for ship propulsion than of reciprocating engines in the early stages of the program, and on account of the demonstrated efficiency of the geared turbine, the majority of the vessels originally contracted for were of the geared-turbine type, turbines and gears being merely repetitions of installations already made and found to be satisfactory. Due to the very natural difficulties attending upon the operation of these geared-turbine units by inexperienced men, however, a strong effort has been made to increase the reciprocating engine production of the country and as a result a larger proportion of the later vessels built by the Emergency Fleet Corporation are being equipped with reciprocating engines.

The undoubted engineering advantage of a properly designed geared-turbine unit have been fully appreciated by those in charge of the shipbuilding program, and every possible effort has been made to secure proper equipment of this character. Many of the original geared-turbine designs which were created on a production theory were not in accordance with good marine practice and as a result many of these earlier installations gave trouble and consequently created a feeling in the minds of many that a geared turbine was not a dependable installation. The inefficiency of the engineers available greatly increased the difficulty of the situation. In the later designs the objectionable features have been removed and it is confidently expected that satisfactory results will be obtained.

The production of the necessary horsepower in boilers for the immense fleet under construction has also been a serious problem. As it was obviously easier to secure a large and prompt production of water-tube boilers than of Scotch boilers, many of the earlier ships contracted for were equipped with water-tube boilers although it was realized that a larger proportion of Scotch boilers would have been desirable. The manufacturing possibilities of Scotch boilers have been increased and in the latter part of the program a greater number of the vessels have been equipped with Scotch boilers.

The possibility of the use of Scotch boilers in many instances was determined by the fact that these boilers can practically only be

shipped by water transportation, and further by the lack of facilities at the yards for handling the boilers on arrival.

As in the case of the engines where the advantages of the turbines were admitted, it is not disputed that in certain types of ships and for certain services, well constructed water-tube boilers have a decided advantage over the Scotch boilers. Some of the water-tube boilers contracted for by the Fleet Corporation, however, were not built by boiler manufacturers of established reputation nor were they of good design, it having been necessary in the emergency to make use of what facilities existed. Such water-tube boilers as are now being installed in later vessels are of good design, manufactured by concerns of established reputation.

FINANCIALLY WEAK SHIPYARDS.

As might be expected, due to the inexperience of many of the organizations having contracts with the Fleet Corporation for vessel construction, and also due to the great increase in labor rates as well as cost of material and plant equipment, in many instances such organizations have found that the cost of creating their shipbuilding facilities has far exceeded their original estimates, and, further, that the actual cost of vessel construction has been greater than was contemplated. As a result of these facts and also as a result of the cessation of shipbuilding which followed the armistice, many of these newly created yards and some of the older yards which have extended their facilities, have experienced serious financial difficulty. It is evident that where shipyards involving the expenditure of large sums of money for plant construction have been created for the purpose of building vessels and where contracts but for a few vessels have been placed, financial loss is inevitable. Many of these shipyards which are in financial difficulty at the present time would undoubtedly have been able to make a reasonably good showing had they commenced operations 12 months earlier or had the signing of the armistice been deferred.

CANCELLATIONS OF VESSEL CONTRACTS.

This subject has already been touched upon, the general basis on which cancellations were undertaken depending upon the type of vessel involved.

In the case of wooden, composite, and concrete vessels, as it was evident that the number of these vessels actually contracted for was far in excess of the normal requirements of the country in peace time, due to the fact that such vessels were either of an untried type and therefore, susceptible of improvement, or were of such small proportions and such small carrying capacity as to be commercially unprofitable.

Accordingly, in these types of vessels, after the signing of the armistice, suspensions and cancellations were made in each instance wherever the construction had not proceeded too far to make such a course unnecessarily wasteful. A statement of the reduction effected in the wooden, composite, and concrete program follows.

Suspensions and cancellations data as of Apr. 24, 1919—wood, composite, and concrete vessels.

Class.	Under suspension.		Canceled.		Total.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
Wood	18	3,500	357	1,100,350	375	1,103,850
Composite	4	14,000	28	98,000	32	112,000
Concrete			29	213,500	29	213,500
Total	22	17,500	414	1,411,850	436	1,429,350

In the case of steel vessels, before any action was taken, the entire shipbuilding program was carefully reviewed not only by the officials of the Fleet Corporation but by specially constituted boards of highly qualified ship owners and operators.

As a result of the findings of these experts, it was determined that in certain types of vessels more were under construction than could profitably be utilized and accordingly suspensions or cancellations were instituted in the case of such vessels where construction had not advanced to such a degree as to make this action unwise. At the same time in order properly to round out the shipbuilding program, the design of several additional types of vessels running from ten to fifteen thousand tons dead-weight was undertaken, many of them being of relatively higher speed than the average vessel under construction, the motive power in certain instances being Diesel engines and in others quadruple expansion reciprocating engines or geared turbines, depending upon the service desired.

One result of the analysis of this program was the determination to continue the construction of the entire number of large high-speed vessels originally contracted for as transports, with the exception of 35 of the class B vessels at Hog Island, which were canceled, only completing a limited number of these vessels as transports, the balance to be delivered as passenger and cargo vessels qualified to hold their place in competition with any other passenger and cargo vessels of their size in the world's trade. The wisdom of this step is apparent as not only will these vessels when completed have a distinct military value, being readily convertible to transport service in time of war, but they will immediately on their completion become available for one of the most important services of our merchant marine, the creation of passenger service between the United States

and South American countries, the Mediterranean and in the general trans-Atlantic traffic.

A statement of the reduction effected in the steel-ship program follows:

Suspensions and cancellations data as of Apr. 24, 1919—Steel vessels.

Class.	Under suspension.		Canceled.		Total.	
	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.	Number.	Dead-weight tonnage.
Steel	184	1,305,200	174	1,299,175	258	2,604,375

In order to determine whether any additional cancellations of steel vessels is desirable, a careful study has been made of the progress in construction at the various steel shipbuilding yards, and the following table presents the number of vessels in each yard which from present indications may not be completed during 1919 (Hog Island and Submarine Boat excepted):

Federal Shipbuilding Co	3	Mobile Shipbuilding Co	6
Groton Iron Works	3	Pensacola Shipbuilding Co	4
Bethlehem-Harlan Plant	7	Nashville Bridge Co	4
Chester Shipbuilding Co	12	Moore Shipbuilding Co	5
Carolina Shipbuilding Co	8	Pacific Coast Shipbuilding Co	2
Virginia Shipbuilding Co	2	Todd Dry Dock & Construction Co	5
Oscar Daniels Co	4		
Doullut & Williams	4	Total	74
Terry Shipbuilding Corporation	5		

The steel situation has been investigated in each case and from the facts developed in this manner it appears that of the 74 vessels in question it is possible that not to exceed 13 vessels might be suspended without too great a cost of cancellation. In each of these cases, however, the relations of the Fleet Corporation with the contractor must be carefully studied, so that the effect of the suspension may be clearly foreseen.

It is apparent from the above facts that the suspensions and cancellations already made have been carefully considered and that but few opportunities if any to reduce the number of vessels under construction have been omitted.

SHORTAGE IN TONNAGE.

As an indication of the necessity of continuing the shipbuilding program, Exhibit "B", (facing page 96), showing the status of British shipbuilding, is of interest. This chart was made up from figures presented by Lord Pierre, controller of British shipping, and it shows that even with British shipyards producing at a rate of two and three quarter million gross tons annually from the time of the

signing of the armistice, it will be 1926 before that country can overtake the position in which it would have been had there been no war and had the net yearly gain in British tonnage in prewar periods continued.

Even assuming that the active entrance of the United States into ship owning and operation will affect the situation so that Great Britain will not require the same increase that would have been necessary before the war, there will still remain an ample margin to assure us that British shipyards will be occupied in building for their own needs for the next few years. This also should convince us that British shipyards will not be in the open markets for ship contracts with outside countries.

DISPOSAL OF EXCESS MATERIAL.

As a result not only of the actual suspension and cancellation of vessels contracts, but by reason of the greatly reduced rate of shipbuilding following the signing of the armistice it was apparent that the Fleet Corporation in common with all Government agencies, would find itself overbought in many particulars.

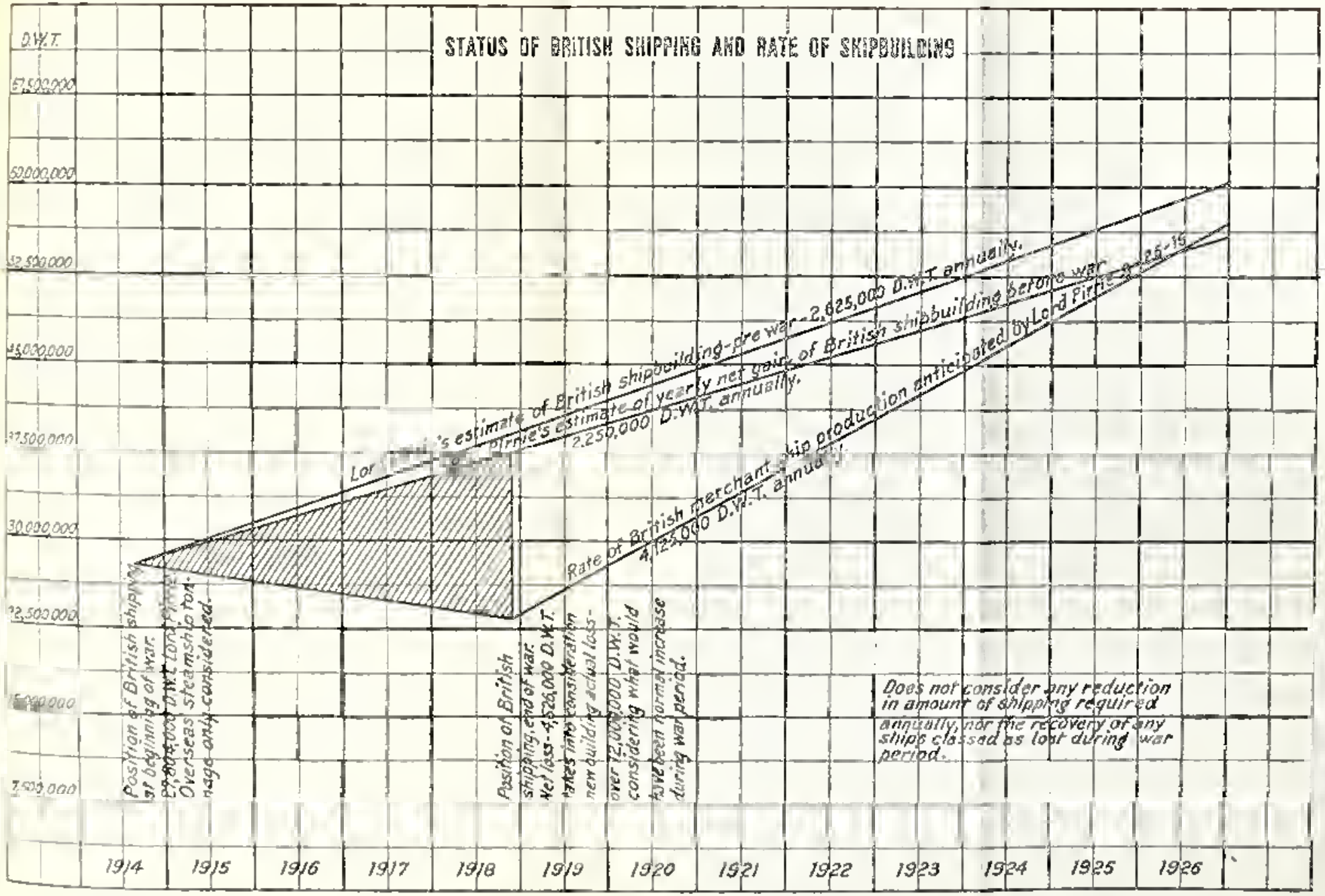
The shipyards under intense pressure were, during the emergency, building ships at a rate far in excess of the production possibilities which existed at the outbreak of the war as regards machinery, boilers, equipment, and supplies of all kinds. The Fleet Corporation accordingly was forced to create new manufacturing facilities in many directions, and stimulate the production of all material and equipment necessary for shipbuilding.

Cancellations of excess material and equipment have been effected as promptly as possible in order to reduce the consequent loss to a minimum.

The disposal of the large amount of material and equipment of all kinds purchased for ship construction and not necessary under the revised conditions is a problem of great magnitude. Its care and disposition are being given most careful attention.

Inventories are being taken throughout the country at every shipyard, warehouse, and manufacturing plant in which the Fleet Corporation is interested, showing the material or equipment available, its state of completion, and its value. These inventories as prepared are immediately useful for the disposition of the excess material which in every instance is diverted to other shipyards or ship contracts than for which purchased, where such procedure is possible. The property is being well cared for and a carefully considered plan of its disposal is being prepared, it being intended to take advantage of the needs of the shipyards and other manufacturing industries of the country as far as possible by direct sales and in any event dispose of the entire accumulation at the earliest possible moment.

Exhibit "B."



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COOPERATION WITH DIVISION OF OPERATIONS.

As the number of vessels delivered for operation increased, the absolute necessity of cooperation with the Division of Operations so that the vessels when delivered should be in all respects satisfactory for the purpose intended, became increasingly important.

The department of construction and repair of the Division of Operations was created for the purpose of receiving from the Fleet Corporation the vessels as completed, seeing that in all respects as delivered these vessels would meet the requirements of the service in which they would be placed, and, in addition, attending to all matters in connection with the repairs of vessels in operation.

A very close working agreement was immediately made with the department of construction and repair whereby that department should be kept closely informed regarding vessel construction, types of vessels being built at the various yards, and, in addition, a procedure was established covering the conditions under which trial trips should be held, and claims against shipbuilders for defective work after delivery of vessels should be investigated and prosecuted.

In the relations with the department of construction and repair, it has been clearly defined that, although the representatives of that department should have access to the shipyards during the construction of the vessels, they should have no authority whatsoever over, nor should they have any correspondence with, or issue any instructions to, the builders of the vessels.

It is provided that any suggestions or criticisms submitted by the department of construction and repair shall come directly to the representatives of the Ship Construction Division in the field, and that any action taken shall be as a result of a joint agreement between the Division of Operations and the Division of Ship Construction. The relations between the two organizations are entirely satisfactory and much has been gained by the close cooperation which has existed.

DIFFICULTIES WITH VESSELS WHILE IN OPERATION.

In the event that any difficulty is experienced on a vessel which has been turned over for operation after acceptance from the builder, it has been arranged that when such difficulty is of a sufficiently serious nature to warrant investigation, a survey shall be held at which will be present representatives of the Division of Ship Construction, department of construction and repair of the Division of Operations, and, if necessary, a representative of the shipbuilder and the operator of the vessel.

The following (Exhibit "C") is a copy of Technical Order No. 111, giving in detail the procedure which is followed in such cases:

EXHIBIT C.

United States Shipping Board Emergency Fleet Corporation, Philadelphia, Pa.

TECHNICAL ORDERS.

Date, January 6, 1919. Order No. 111.

To: District managers and their authorized representatives for action. Others for information.

Subject: Procedure for handling claims for repairs on steel ships after delivery.

Effective forthwith and superseding all prior orders or clauses therein conflicting herewith, claims for repairs on steel ships will be handled, in accordance with an agreement with the Division of Operations, as follows:

First. The Construction Division (as distinguished from the Division of Operations) is to be responsible for the inspection of vessels under construction, but vessels are not to be accepted from the contractor until agreement has been reached between the Construction Division and the Department of Construction and Repair, Division of Operations, that such vessels are entirely completed in a satisfactory manner according to the contract, plans, and specifications.

Second. The cost of all repairs, renewals, and alterations required on all vessels, after the delivery to the Division of Operations, is to be assumed by that Division, except as provided hereafter. The Division of Operations is to place all orders necessary for the work required.

Third. In order that the Construction Division may be advised of all difficulties which arise on vessels which it has completed the Department of Construction and Repair, Division of Operations, is to furnish the Construction Division, through the proper channel, with copies of all correspondence received concerning defects and complaints regarding vessels.

Fourth. In the event that because of difficulties in the operation of any vessels which have been delivered by the Construction Division, it becomes necessary to make certain repairs, the District Manager of the District where the repairs are to be made, or his representative, is to be notified that such repairs are necessary, and either the District Manager, or his representative, is to be present at a survey and is to have equal authority with the Department of Construction and Repair, Division of Operations, to decide whether the necessary repairs are chargeable to the contractor because of defective workmanship or material, or to the omission of items which should have been furnished under contract requirements, their findings to be submitted in writing to their respective Home Offices. The contractor, of course, is to be notified to enable him also to have representative present. Differences of opinion between the representatives of the Construction and Operating Divisions will be adjusted between their Home Offices.

Fifth. The Construction Division is to prosecute all claims against contractors for defective workmanship and material, also for the cost of completing any items which should have been furnished under the contract requirements, but which were not covered in the list of incompleted work furnished upon acceptance. All sums so collected from contractors are to be applied against the expenditures made by the Division of Operations for the necessary repairs. Should it become necessary to return vessels to the original contractors' yards for such repairs, the Construction Division will supervise and direct such work, if so requested by the Construction and Repair Department, Division of Operations.

If any difficulties of administration or interpretation of the above-outlined procedure present themselves, the district executive concerned will inform the Steel Ship Construction Division promptly, so that all such questions may be adjusted.

(Signed) CHARLES PIEZ, *Director General.*

United States Shipping Board Emergency Fleet Corporation, Philadelphia, Pa.

TECHNICAL ORDERS.

Date, February 12, 1919. Order No. 111.
(1/6/19) (As amended 2/12/19.)

To: District managers and their authorized representatives for Action. Others for information.

Subject: Procedure for handling claims for repairs on vessels after delivery.

Effective forthwith and superseding all prior orders or clauses therein conflicting herewith, claims for repairs on all ships will be handled in accordance with an agreement with the Division of Operations as follows:

A. *Jurisdiction of Construction Division:* The Construction Division (as distinguished from the Division of Operations) is to be responsible for the inspection of vessels under construction, but vessels are not to be accepted from the Construction Division until the procedure outlined in Technical Order No. 112 as amended has been followed.

B. *Jurisdiction of Division of Operations:* The cost of all repairs, renewals, and alterations required on all vessels after the delivery to the Division of Operations, is to be assumed by that Division, except as provided hereinafter. The Division of Operations is to place all orders necessary for the work required.

C. *Transmittal of correspondence:* In order that the Construction Division may be advised of all difficulties which arise on vessels which it has completed, the Department of Construction and Repair, Division of Operations, is to furnish the Construction Division, through the proper channel with copies of all correspondence received concerning defects and complaints regarding vessels.

D. *Survey and charging of repairs:* In the event that because of difficulties in the operation of any vessels which have been delivered by the Construction Division, it becomes necessary to make certain repairs, the District Manager of the District where the repairs are to be made or his representative is to be notified that such repairs are necessary and either the District Manager or his representative is to be present at a survey and is to have equal authority with the Department of Construction and Repair, Division of Operations, to decide whether the necessary repairs are chargeable to the contractor because of defective workmanship or material, or to the omission of items which should have been furnished under contract requirements, their findings to be submitted in writing to their respective Home Offices. The contractor of course is to be notified to enable him also to have representatives present. Differences of opinion between the representatives of the Construction and Operating Divisions will be adjusted between their Home Offices.

E. *Claims for defective workmanship, etc.:* The Construction Division is to prosecute all claims against contractors for defective workmanship and material, also for the cost of completing any items which should have been furnished under the contract requirements, but which were not covered in the list of incompleted work furnished upon acceptance. All sums so collected from contractors are to be applied against the expenditures made by the Division of Operations for the necessary repairs. Should it become necessary to return vessels to the original contractors' yards for such repairs, the Construction Division will supervise and direct such work if so requested by the Construction and Repair Department, Division of Operations.

If any difficulties of administration or interpretation of the above outlined procedure present themselves, the district executive concerned will inform the Manager of the Ship Construction Division promptly, so that all such questions may be adjusted.

(Signed) Daniel H. Cox,
Manager Ship Construction Division.

United States Shipping Board Emergency Fleet Corporation, Philadelphia, Pa.

TECHNICAL ORDERS.

Date, March 12, 1919. Supplement to Order No. 111.
(As amended 2–12–19.)

To: District managers and their authorized representatives for action. Others for information.

Subject: Procedure for handling claims for repairs on vessels after delivery.

Paragraph D of Technical Order No. 111, as amended February 12, 1919, is hereby changed to read as follows:

D. *Survey and charging of repairs*: In the event that a vessel which has been delivered by the Construction Division requires certain repairs because of difficulties in operation, the Division of Operations will notify the District Manager in whose District the survey is to be made that repairs are necessary, the place where the survey is to be made, and particulars regarding the name and builder of the ship.

The District Manager will in turn notify the representative of the Performance Section of the Home Office in his District. He will also notify the shipbuilder, so that the shipbuilder may be represented on the survey.

The survey will be made by the Performance Engineer and the representative of the Department of Construction and Repair of the Division of Operations, both men having equal authority to decide whether the repairs are chargeable to the contractor because of defective workmanship or material or to the omission of items which should have been furnished under the contract requirements; or whether the trouble is chargeable to Operations, their findings to be submitted to their respective Home Offices.

Differences of opinion between the representatives of the Construction and Operation Divisions will be adjusted between their respective Home Offices.

(Signed) DANIEL H. COX,
Manager, Ship Construction Division.

A careful record of all matters of this sort is kept, a monthly summary being submitted of all difficulties that have been reported in the operations of vessels, giving the nature of the difficulty, the attendant circumstances, and the action taken.

IMPROVEMENT IN CHARACTER OF WORK.

The improvement effected in the type of construction and general reliability of vessels as a result of systematic effort is clearly shown in the following table (Exhibit "D") which gives, commencing January, 1918, the number of troubles reported each month in the case of steel and wooden vessels, as well as the total number of vessels in operation at the time.

EXHIBIT D.

Numbers of deliveries and troubles.

STEEL SHIPS.

		Delivered up to—	Troubles.	Main engine.					Boiler.		Aux.	Hull and general.
				G. E.	West.	De-LVL.	Eng.	Misc.	W. T.	Sctn.		
	1918											
1	January	127	3	1			1				2	
2	February	143	8	2			1			1	2	2
3	March	163	1								1	
4	April	193	4	2							2	
5	May	233	7	3							2	2
6	June	277	9		2			2	1		4	
7	July	313	24	3	3	2	4	3	1	1	4′	4
8	August	354	16	1		1	5		1	2	5″	2
9	September	399	21	1	1		4	1		5	7	2
10	October	425	30	4	1′		7	1	2	5′	11‴	4
11	November	479	44	3	‴	2	9	1	3	8	19⁗	7′
12	December	506	39	2	⁗	2	9		1	8′	17‴	9′
	1919											
1	January	523	13	3		1	3		2	1	8	5
2	February	548	15	1		1	2	1	1		5″	6
3	March	578	18	2	1	2	1	2‴	1	1	7′	5
4	April	594	6	2							3	1

WOOD SHIPS.

	1918											
1	January											
2	February											
3	March											
4	April											
5	May											
6	June	3										
7	July	11	6				1		1		2	2
8	August	31	9				1		1		3	4
9	September	59	6								2	4
10	October	87	14				3		4‴		4	6
11	November	97	53				7		8‴		19	22
12	December	112	30				6		4″		9	13
	1919											
1	January	117	14				2		2		4	6
2	February	122	27		1		6				7″	15
3	March	130	8				2		2″		2	4
4	April	132	7				1				4	2

It will be seen that, in the beginning, as the number of vessels placed in operation increased, so likewise did the number of troubles experienced with these vessels, the difficulties in each case reaching a maximum in the month of November, 1918.

In that month the percentage of vessels in difficulty, of those actually delivered, was, in the case of steel vessels, 9 per cent, and in the case of wooden vessels, 55 per cent, while in the month of April the corresponding figures were 1 per cent and 5.3 per cent.

While a portion of this improvement in performance must be credited to better operating conditions, this record is very gratifying and speaks well for the efficiency of those charged with the inspection of the vessels and for the shipbuilders.

TRIAL TRIPS AND ACCEPTANCES OF VESSELS.

A carefully considered and uniform routine has been adopted, establishing a trial trip procedure to be followed in the case of all vessels when completed by the builder and ready to be turned over for operation.

In determining upon this procedure it was considered wise, in view of the many criticisms that had been submitted regarding the character of vessels that were being constructed for the Fleet Corporation, to insist upon so rigorous an inspection at time of delivery and so thorough a trial of the vessel that when accepted, there could be no question of lax inspection or inferior workmanship. Technical Order No. 112 (Exhibit "E") states in detail the steps to be taken in connection with trial trips and acceptances of vessels and covers the detailed instructions for conducting trial trips.

EXHIBIT E.

United States Shipping Board Emergency Fleet Corporation, Philadelphia, Pa.

TECHNICAL ORDERS.

Date, April 16, 1919. (1-16-19; 2-12-19.) Supplement (2-21-19).

Order No. 112. (as amended 4-16-19.)

To: District Managers for Action. Others for Information.

Subject: Trial trips and acceptance of ships.

Effective forthwith and superseding all prior orders or clauses therein conflicting herewith, together with Supplement to Technical Order No. 112 as amended 2-21-19, trial trips and acceptance of ships will be handled in accordance with an agreement with the Division of Operations as follows:

A. *Trial board:* 1. *Formation.*—On all vessels undergoing trial trips, there shall be present a trial board consisting of—

(*a*). A representative of the Performance Section of the Ship Construction Division.

(*b*) The District Manager concerned or his representative, representing the Ship Construction Division.

(*c*) A representative of the Construction and Repair Department, Division of Operations.

In the case of ships to be operated by Navy Department, a representative of that Department should be present.

2. *Jurisdiction.*—Should these representatives *a*, *b*, and *c*, be able to reach a satisfactory agreement with respect to vessel under consideration, their rulings are to be complied with before acceptance is consummated. Should it develop in any particular case that an agreement can not be reached by these representatives, as above, *b* and *c* will in turn advise their respective Divisions, and the question at issue will be determined by conference between the Manager of the Ship Construction Division and the Head of the Department of Construction and Repair, Division of Operations.

B. *Trial trips and acceptance procedure:* 1. *Preliminary requirements and procedure—*(*a*) *Steel vessels.*—Steel vessels, before trial trips, shall be completely finished, equipped ready for sea, and dry docked, except in the case of vessels lying in fresh water (if more than 42 consecutive days have elapsed since launching or last docking), cleaned and painted.

(*b*) *Wood vessels.*—Wood vessels, before trial trips, shall be completely finished, equipped ready for sea and dry docked, recalked, seams cemented, and under, water body given two coats of copper paint. (There will be no necessity of cementing seams before launching; this being done when vessel is docked.)—It is intended that only such recalking as is necessary in the opinion of the representatives of the Division of Operations and the Ship Construction Division jointly shall be done.

NOTE.—The term "equipped ready for sea" as above used will be understood to mean "equipped with all equipment, stores, spare parts, etc., required under contract."

(*c*) *All vessels.*—In cases where shipyards are located at a greater distance than six hours' run from dry docks, the dry docking of these vessels can be done after the dock and six-hour full power trials have been made, which will enable the six-hour trials to be run when proceeding from the builder's plant to dry docks.

2. *Trial trips and acceptance requirements and procedure: (a) General, applying to all vessels.*

(1) *Six-hour dock trial.*—A dock trial will be made of not less than six consecutive hours (vessel in ballast condition except when draft of water will not permit with all double bottoms, peaks, and deep and other ballast tanks full), to insure smooth and satisfactory performance of all main and auxiliary machinery.

(2) *Six-hour full-power trial.*—After the conclusion of a satisfactory dock trial as described in (1), the vessel (excepting vessels built on the Great Lakes and all bulk oil tankers) shall be given a continuous six-hour full-power trial away from the dock in the vicinity of the building yard, during which time the maneuvering qualities shall be tested and such additional tests of auxiliary machinery made as not already completed. In the case of a bulk oil tanker, after satisfactory dock trial indicated in paragraph 1 above, the vessel will be loaded with water ballast to deep-water load condition and the balance of the trials, as indicated in paragraph below, performed. After this trial all tanks are to be pumped out, cleaned and wiped dry, if requested by Construction and Repair Department.

In the case of vessels built on the Great Lakes, after satisfactory dock trial, indicated in paragraph (1) above, the vessel will be partly loaded with cargo and the balance of the trials as indicated in paragraphs below performed in going from loading port to canal.

(3) *Conditional delivery.*—If these two trials, 1 and 2, in the case of a cargo vessel are satisfactory, the vessel will be conditionally delivered, the procedure to be as follows:

In the event that the vessel is to be turned over to the Division of Operations a receipt on Form "B" will be secured from the representative of that Division. A copy of this form is attached.

In the event that the vessel is to be turned over to a private operating management, receipt from the operating management will be taken on Form "B" except in the case of a bulk oil tanker when, after satisfactory loaded trial, receipt will be taken on Form A, copy attached.

Form C—"Acceptance certificate" (copy attached)—properly executed, is to be presented to representative of Ship Construction Division in all cases before Forms A or B are tendered to, and signed by, private operating management.

After the acceptance on either of these forms the vessel will then be loaded by the operating management. In the event that the operating management is a private concern, the arrangement for securing a load will be made by the Division of Operations when the vessel is assigned.

(4) *Standardization runs.*—A series of standardization runs shall be made, either before or after the twelve (12) hour loaded trial as may be most convenient, the vessel in loaded condition, and compasses adjusted in satisfactory manner.

(5) *Continuous full-power sea trials.*—In the case of a steel vessel, a 12-hour continuous full-power sea trial and in the case of a wood vessel a 24-hour continuous full-power sea trial, arranged for by the Division of Operations with the Operator at the time the vessel is assigned shall then be held, during which the vessel with her machinery, all auxiliaries, and equipment shall be thoroughly tried out. The expense of all such trial trips to be chargeable to construction costs.

In the event that the Division of Operations shall find it impracticable to arrange a cargo for each vessel, and as a result the procedure with respect to deep-load trial can not be carried out as previously designated, a trial of similar duration shall be held with the vessel in ballast or partial load condition, the amount of ballast to be determined and the ballast or cargo to be supplied by the Division of Operations.

(*b*) *Special requirements for tugboats.*—In the case of tugboats there shall be in all cases a dock trial of not less than six consecutive hours and a full-power trial of ten hours' duration in the vicinity of the builder's yard with tanks and bunkers full.

(*c*) *Special requirements called for in the contract.*—In cases where the contract calls for different trial conditions from those required above the District Manager will accept the vessel from the builder when the contract requirements have been complied with, but will arrange with the builder for the dock, light trial or 12-hour loaded trial in case of bulk oil tankers described above, and will make the necessary adjustment with the shipbuilder for such changes in cost as may be caused by these trial requirements.

(*d*) *Final acceptance and delivery.*—If operation under the continuous full-power sea trial is satisfactory, final acceptance and delivery will be consummated on Form A.

(*e*) *Correction of unsatisfactory conditions.*—If any conditions under sea trial are found unsatisfactory, the Ship Construction Division will take immediate action to correct such conditions and all expenses connected with the trial with the exception of demurrage to the vessel, will be chargeable to the construction cost. The Division of Operations will make the necessary arrangements with the Operators for this sea trial and will furnish the District Manager with the details of the costs. The District Manager will then forward these costs to the Home Office with his comments.

C. *Assumption of cost for dry-docking steel ships:*—(1) *Where launching was premature.*—In cases where it becomes necessary to dry-dock a steel vessel because more than 42 days have elapsed since launching, the Emergency Fleet Corporation will expect that the expense of dry-docking will be borne by the shipbuilder if the vessel was prematurely launched against the advice of the District Manager.

(2) *Where Corporation was responsible for delay.*—If the Fleet Corporation is solely responsible for the delay which necessitated the docking because of nonreceipt of equipment to be furnished by the Fleet Corporation or for other similar reasons the expense of dry-docking will be borne by the Emergency Fleet Corporation.

(Signed) DANIEL H. COX,
Manager, Ship Construction Division.

Enclosures.

Form A (Tender and Final Acceptance Receipt).

TENDER.

To.....
Authorized Representative of

.....
Operating Management

Date.....

DEAR SIR: On behalf of the U. S. Shipping Board, and pursuant to an agreement between..... and U. S. S. B. E. F. C., Division of Operations, I hereby tender to you, for operation, the steamship "....." (E. F. C. Hull No. .....) with stores and movable equipment on board as shown on inventories ..... to ..... attached and with documents as per schedule attached, now lying at ..... in the custody of .....

Title to this vessel has been vested in the U. S. Government. This vessel of approximately ..... (.....) tons deadweight capacity has been constructed by ..... in accordance with plans and specifications, duplicate copies of which are enclosed.

The vessel is in all respects seaworthy and in good operating condition.

Very truly, yours,

.....
District Manager.
(As Special Agent for U. S. S. B.)

Witness:

.....

RECEIPT.

Date.....

This is to certify that on the ..... day of ....., 19.... at ..... o'clock .... M., there has been received, for operation, from the United States, as represented by the United States Shipping Board, the vessel as described in above tender, together with the stores and movable equipment and documents therein referred to, at .....

.....
Operating Management.

Witness:

.....

By.....
Authorized Representative.

Form B—(Tender and Conditional Acceptance Receipt.)

TENDER.

To.....
Authorized Representative of
Date.....
.....
(Operating Management.)

Dear Sir: On behalf of the U. S. Shipping Board, and pursuant to an agreement between ..... and U. S. S. B. E. F. C., Division of Operations, I hereby tender to you, for safe keeping, the Steamship "....." (E. F. C. Hull No. .....) with stores and movable equipment on board as shown on inventories ..... to ..... attached and with documents as per schedule attached, now lying at ..... in the custody of .....

This vessel of approximately..... (.....) tons dead weight capacity has been constructed by ..... and now passing into your custody has been provisionally accepted by the Shipping Board.

This tender is preliminary to a tender for final acceptance and operation, which will be made to you as soon as vessel satisfactorily completes official trial trip requirements.

Very truly, yours,

.....
District Manager,
(As Special Agent for U. S. S. B.)

Witness:

.....

RECEIPT.

Date .....

This is to certify that on the ..... day of ....., 19...., at ..... o'clock ....M., there has been received for safe keeping from the United States, as represented by the United States Shipping Board, the vessel as described in the above tender together with the stores and movable equipment and documents therein referred to, at .....

.....
Operating Management.

Witness:

.....

By .....
Authorized Representative.

Form C—(Acceptance Certificate).

We hereby certify that the S. S. "....." on ....., 1919, underwent a ..... hour trial, during which the vessel and her propelling machinery were thoroughly tried out; that such trial proved entirely satisfactory and the vessel is ready for {conditional / final} acceptance, subject to corrections listed on attached sheet being made.

(Number of corrections listed .....)

(Number of sheets attached .....)

.....

Representing Department of Construction and Repair,
Division of Operations.

.....

Representing Performance Section,
Ship Construction Division.

.....

Representing District Manager,
Ship Construction Division.

We concur in the above finding.

.....

Master.

.....

Chief Engineer.

The reports submitted by the trial boards clear through the home office and advantage is taken of all constructive suggestions or criticisms so that not only the particular vessels involved will be satisfactory, but subsequent vessels may have the necessary changes and betterments made during their construction.

Number of deliveries and troubles.

STEEL SHIPS.

Delivered up to—	Number.	Troubles.	Main engine.			Boilers.					Hull, general.
			General Electric.	Westinghouse.	De Laval.	English.	Miscellaneous.	Water tube.	Scotch.	Auxiliary.	
1918.											
January	127	3	1							2	
February	143	8	2			1			1	2	2
March	163	1								1	
April	193	4	2							2	
May	233	7	3							2	2
June	277	9		2			2	1		4	
July	313	24	3	3	2	4	3	1	1	4	4
August	354	16	1		2	5		1	2	5	2
September	399	21	1	1		4	1		5	7	2
October	425	30	4	1		7	1	2	5	11	4
November	479	44	3		2	9	1	3	8	19	7
December	506	39	2		2	9		1	8	17	9
1919.											
January	523	13	3		1	3		2	1	8	5
February	548	15	1		1	2	1	1		5	6
March	578	18	2	1	2	1	2	1	1	7	5
April	594	6	2							3	1

WOOD SHIPS.

1918.											
June	3										
July	11	6				1		1		2	2
August	31	9				1		1		3	4
September	59	6								2	4
October	87	14				3		4		4	6
November	97	53				7		8		19	22
December	112	30				6		4		9	13
1919.											
January	117	14				2		2		4	6
February	122	27		1		6				7	15
March	130	8				2		2		2	4
April	132	7				1				4	2

SPECIFICATIONS AND CHARACTER OF CONSTRUCTION.

There has been a very considerable amount of adverse criticism on the type and character of vessels which have been delivered by the Emergency Fleet Corporation.

Much of this can be attributed to the fact that all of the earlier vessels which were delivered by the Fleet Corporation were requisitioned vessels, or vessels whose construction had been undertaken by the shipyards for other owners and which were subsequently taken over by the Fleet Corporation under the requisitioning order of August 3, 1917.

While certain of these vessels were under order for responsible American operating companies, the larger proportion of them had been placed in American shipyards by vessel brokers or other persons only interested in selling the building contracts for foreign account or had been placed directly with the shipyards by representatives of foreign governments.

In many instances it was found that the specifications under which these vessels were being constructed called for the cheapest possible type of vessel, and in particular that the equipment of all kinds, including the propelling machinery, boilers, and auxiliaries, was specified with a view of rapid construction and low cost rather than satisfactory service.

From the outset every possible step was taken to improve upon the undesirable features of these vessels, but of necessity many of them, when delivered for operation, were not satisfactory in many essential features.

A gradual process of standardizing the specifications for all types of vessels, so as to secure reliability and efficiency, has been followed with the result that the character of the vessels being built for the Fleet Corporation has steadily improved, so that at the present time little or no criticism can be offered in this direction.

Although in many instances the quality and type of vessel secured by the requisitioning order was not entirely satisfactory, this order was undoubtedly justified by the large number of vessels secured in this manner for prompt delivery.

In all contracts placed by the Fleet Corporation an effort has been made to secure results at least equal to the best commercial practice, and this has been accomplished in so far as possible under the restrictions on material and equipment during the emergency.

CRITICISM OF FAULTY CONSTRUCTION.

Considerable adverse criticism has been made regarding the character of the vessels built by the Emergency Fleet Corporation on the grounds that such vessels were as a rule not only of inferior workmanship, but were so lightly constructed as to be actually weak and not calculated to have any real value except as the means of relieving the immediate emergency for which they were created.

In answer it may be said that on the score of workmanship, owing to the unprecedented increase in the demand for skilled workmen, the construction of the earlier vessels was not so well finished in some respects as would have been the case had the pressure been less severe. The conditions governing the construction of these vessels, however, were such that no weakness in construction was possible, as all of the designs for the vessels contracted for by the Fleet Corporation were approved by Lloyd's Register of Shipping, or the American Bureau of Shipping, and carried the highest possible rating in each society.

Not only were the vessels designed to meet the approval of these classification societies, but they were without exception built under their supervision, as well as under the supervision of the inspectors of the Emergency Fleet Corporation.

As a further safeguard in the case of the vessels of unusual design, such as those built in the fabricating shipyards, a dual classification and inspection was arranged so that these vessels had the benefit of the supervision of both of these societies.

This statement of facts, together with the services rendered by the ships in question, effectually disposes of this criticism.

IMPROVEMENTS IN ENGINEERING FEATURES.

One of the most difficult matters to overcome was the fact that, due to the intense demand for production, it was practically necessary, to a certain extent, that quality should be sacrificed to speed of delivery in placing orders for machinery, boilers, and other mechanical equipment.

This problem was particularly difficult in the case of the geared turbine installations with which it was absolutely necessary, as already stated, that the majority of the earlier vessels should be equipped, owing to the impossibility of securing other types of machinery.

The manufacture of turbines and gears in this country was largely in process of development at the time, and there was a wide divergence of opinion regarding the controlling elements of design. Accordingly, orders were placed with the most reliable manufacturers in the country relying largely upon their engineering opinion as to the details of construction and design. Subsequent experience proved that in many instances these manufacturers, in their desire for speedy production, gave but little attention to the reliability of the units and serious difficulties were experienced with the vessels so equipped.

An intensive study was made of the entire situation, many prominent marine engineers and engineers of the turbine manufacturing companies being called in consultation, and as a result very radical changes in engineering features were instituted, involving a considerable loss of material. The wisdom of this action has been shown by the greatly increased reliability of the later equipment of the geared turbine installations.

The same general procedure has been followed in all other matters of an engineering nature with correspondingly good results.

CHANGES NECESSARY IN VESSELS.

It was early established that in order to secure the greatest possible production of vessels in the shortest time no changes should be made in the construction of the vessels, except those absolutely necessary to secure reliability, and except, further, such changes as were determined by the particular requirements of the military

service in which the vessels were to be placed, or to the conditions with respect to fuel and other operating matters created as a result of the war.

MILITARY FEATURES.

The most serious class of alterations in construction which was thrust upon the Fleet Corporation was that connected with the military requirements, including such matters as low visibility; requiring alteration in sparring plans, derricks, etc.; battery installations, including mounting of guns, providing stowage for ammunition, quarters for additional personnel to operate the battery, and in some instances to man the vessels as naval or military auxiliaries; and the fittings of other gear for protection against mines. As further experience was gained with vessels operating in the war zone, these requirements from time to time were necessarily changes, and this action, although essential, greatly increased the cost of the vessels and delayed their completion.

CAMOUFLAGE.

One of the most interesting features in connection with the so-called military requirements which were instituted as a means of safeguarding vessels operating in the war zone was the application of camouflage painting to all such vessels. This art as applied to vessels had prior to the war received little or no consideration. The European nations, however, before the entry of the United States into the war, had developed this art to a certain extent, and many of our own vessels were painted in camouflage by their owners as a means of protection.

After the entry of the United States into the war the application of camouflage to all vessels became obligatory, and the work of developing methods and creating an organization to effect this undertaking was promptly commenced.

All possible advantage was taken of the knowledge and experience already gained abroad, and a large number of competent artists were engaged under whose direction the preparation of the designs were made and the application of the designs to the vessels effected. A great advance was made in the art, and the result as measured by the immunity of vessels in the war zone was most satisfactory.

FUEL SUPPLY.

Due to conditions existing during the war, it was necessary that all vessels operating in the trans-Atlantic route should carry fuel for a round trip, and this, particularly in the case of the smaller vessels, was most difficult to arrange, requiring in many instances structural

alterations of a serious nature, and in addition being accompanied by a serious loss of cargo-carrying capacity.

In the vessels equipped with oil fuel particular difficulty was met on account of the necessity, when adding additional tankage for oil bunkers, of securing satisfactory oil-tight construction.

BALLAST CONDITIONS.

Another matter which during the war period caused much difficulty was the fact that in most instances no return cargoes were available for vessels in the trans-Atlantic trade. The usual cargo-vessel design is not prepared to meet conditions of this sort, as a vessel is seldom if ever required to run in an absolutely light condition.

This fact was aggravated by the necessity of vessels proceeding under convoy requiring a constant maintenance of speed, which in the winter weather and on a western passage meant that the vessels were driven into head seas in a light condition, causing in some instances serious damage, which under ordinary conditions would not have occurred, as the vessel under such circumstances would have proceeded at less speed and consequently with less injury.

In order to better this situation, wherever possible, the ballast tanks in double bottoms were increased in capacity, deep tanks were provided, and every effort made to place the vessels in a more seaworthy condition when light. The structural changes necessary to accomplish these results were in many cases of a most difficult character.

OIL FUEL.

The Fleet Corporation from the outset appreciated the great advantage from an operating point of view of the use of fuel oil. There was, however, a considerable uncertainty as to the possibility of securing a sufficient supply of fuel oil to meet the requirements of the increasingly large number of vessels.

To improve this situation a large program of oil tankers was undertaken and a large proportion of the cargo vessels contracted for were arranged to burn oil as fuel.

As the situation developed, and as it became evident that a sufficient supply of fuel oil could be counted upon, it was arranged that in practically all cases vessels should be built and delivered as oil burners, their construction to be such as to permit of their using coal as fuel should this become necessary.

PREDICTIONS OF DELIVERY.

It was essential that in order properly to provide for the delivery of supplies and materials of all kinds to Europe, as well as to take care of the transportation of troops, an estimate of the number of

vessels and dead-weight tonnage that would be available throughout a very considerable period in advance should be prepared and submitted to those in charge of the operation of vessels.

At the outset practically the only data for preparing such estimates were the dates of completion appearing in the contracts with various shipbuilders. As the organization of the Fleet Corporation was developed and strengthened, and as the progress in the various shipyards could be noted, these estimates of deliveries, which, while prepared by the home office, were largely based upon reports submitted from the field representatives, became increasingly more accurate.

At the present time very complete records of performance are available regarding each of the shipyards and the estimates of deliveries are no longer mere opinions based on estimates of shipbuilders, but are reasonable expectations of results to be procured based upon accurate knowledge of the progress that is being made in the yards.

TYPES OF VESSELS.

The Fleet Corporation has from many quarters been criticised by those who claim that the designs of the vessels constructed under the direction of that corporation were unsatisfactory.

In answer it should be noted that, with the exception of the wood and concrete vessels and those being constructed by the so-called fabricating yards, which of necessity were of special design, and such vessels as the transports which were to perform a special character of service, no original designs were undertaken by the Fleet Corporation. All other vessels which the Fleet Corporation has had constructed for its account were either, as in the case of requisitioned vessels, tonnage already contracted for of a special design or in the case of contract vessels, repeat orders of vessels of successful types which had previously been built and found satisfactory.

These special types of vessels originated by the Fleet Corporation were developed as a result of the employment of, and consultation with, the most experienced naval architects and engineers.

VESSELS BUILT ON THE LAKES.

The Fleet Corporation has also been criticised for the fact that so large a proportion of its total program was in vessels of small dimensions.

An analysis of the building program will show that with the exception of fabricated vessels of 5,000 tons deadweight, which were restricted in size by the capacity of the yards, and certain requisitioned vessels of smaller dimensions, no contracts have been placed for steel

vessels of less than 7,500 tons deadweight capacity, excepting in the shipyards in the Great Lakes. The shipbuilding facilities of the Great Lakes were relatively of great magnitude measured in production of tonnage, but, unfortunately, due to the restrictions of the Welland Canal dimensions, no properly designed vessel built on the Lakes and of more than 4,000 tons deadweight could be delivered on salt water without going through the tedious and expensive process of being cut into two sections, and passing through the canal in this manner and later being rejoined upon reaching salt water.

These facts were carefully weighed and the advantages to be secured from the delivery of a great number of vessels of relatively small sizes, but collectively of great carrying capacity, were considered to warrant their construction.

Although, therefore, carefully prepared designs were developed of vessels to be built on the Lakes of 6,000 tons deadweight capacity and over, which would require cutting before passing through the locks, no contracts were placed for such vessels and the program in this region was confined to vessels which could as originally built pass through the canal, and be delivered without alteration, these vessels being of the same dimensions as a large number of the smaller Norwegian tramps and similar vessels owned by British interests.

DIESEL ENGINES.

The great advantage to be secured in fuel consumption and operating charges by the use of Diesel engines was fully realized by those in charge of the shipbuilding program.

Unfortunately, however, the design and manufacture of this type of engine had not really progressed in this country beyond the experimental stage prior to the war, and as all the engineering facilities of the country were strained to the utmost to produce other types of propelling machinery than Diesel engines for the war program, no real constructive steps could be taken during that period for developing the Diesel engine situation.

A limited number of relatively small sized Diesel engines were, however, ordered by the Fleet Corporation from concerns not engaged in the manufacture of other types of marine engines, and a specially designed steel vessel was developed of 5,000 tons deadweight capacity, of extremely simple form and construction, in which it was proposed to install these engines when built.

Owing to the early termination of hostilities, no contracts had actually been placed before that time for these vessels and the project has been temporarily abandoned, the orders for the engines having been suspended.

Now that the situation has changed and engineering facilities are available for the manufacture of large Diesel units, this matter is

being given active consideration, orders for certain Diesel engines of large size and of approved design have been placed and a program of Diesel motor ships of approximately 10,000 tons deadweight capacity of the most approved design in every particular is now under consideration.

DIFFICULTIES IN INCREASING SHIP CONSTRUCTION CAPACITY.

At the outset the Fleet Corporation was confronted with the fact that practically the entire capacity of the larger shipyards in the country was occupied in the construction of the naval program, and that the other existing steel yards had orders for a long period in advance either for foreign or domestic account. In order, therefore, to greatly increase the output of shipbuilding it was necessary to—

(1) Create new shipyards.

(2) Secure and educate workmen in all trades.

(3) Create additional engine, boiler, and auxiliary manufacturing capacity.

(4) Create housing facilities.

(5) Provide means of transportation for men and material.

(6) Secure an adequate steel supply and a proper distribution of this supply to the shipyards.

All of these problems presented serious difficulties but that they were successfully overcome may readily be demonstrated by comparison between the average output of steel vessels for the three years prior to the war of some 500,000 tons deadweight per annum, with the actual rate at which ships were being constructed at the time of the signing of the armistice, of more than 6,000,000 tons deadweight per annum. This may be well considered as a remarkable achievement.

SCARCITY OF STEEL.

Based upon the rate of shipbuilding which was estimated as being necessary to supply the tonnage requirements demanded, and which was practically reached at the time of the signing of the armistice, approximately 4,000,000 tons of steel were figured to be necessary for ship construction.

This immense amount of steel represented a very large proportion of the total national production, and, as at the same time the requirements of the Army and Navy and other Government departments were excessive, the situation was most serious.

Every effort was made to stimulate the production of steel and also properly to allocate the available supply among the interests involved in proper proportion, as well as to distribute the steel available for ship construction to the shipyards in accordance with their actual requirements.

The control of the situation thus established was distinctly effective but, notwithstanding every effort, during the period from March to September, 1918, ship production was greatly hampered as a result of a shortage in the supply of steel.

PRESENT STATE OF THE SHIPBUILDING INDUSTRY.

It was inevitable that as the expansion of the shipbuilding facilities of the country was so great, a return to normal conditions with respect to the demand for tonnage would place many of these yards in a difficult position.

In many instances new yards which were created for the purpose of building vessels to meet the emergency, or existing yards in which large extensions were created for the same purpose, had not become really effective until the time of the signing of the armistice. From then until the present time, quite naturally, but few additional orders have been given to the shipyards of the country, and in addition, many of these yards have received cancellation orders covering a large percentage of their program.

As during this period the shipyards have not been permitted to take contracts for foreign account which was the only available market—as American operators naturally look forward to the possibility of acquiring ships now under construction—the present situation is extremely grave for the shipyards.

Many shipyards are at the present moment being forced to reduce the number of their employees and the proportion of their idle facilities is increasing daily, and will reach alarming proportions within the next few months unless there is a radical change in the situation.

It is to be regretted that no action has as yet been taken tending to prevent the inevitable depreciation of the splendid shipbuilding plants that have been created, and the dissolution of the efficient organizations which are now building the vessels for the Emergency Fleet Corporation.

In addition to the shipyards which at the present time are in financial difficulty, there will, without question, be others that will find themselves in that class for no other reason than that they have not been permitted to take business for foreign account.

One serious feature of the situation is that many yards, seeing the end of their present contracts, are deliberately slowing up their progress in order to hold their organizations together in the hope that they may be in position to seek business when the restrictions are removed. The net result when this process is carried too far is, obviously, an increased cost of production and the general lowering of individual and yard efficiency, which acts against the interest of

the Emergency Fleet Corporation, particularly in those yards where that corporation has a great financial interest.

In addition to the increased cost directly due to this policy there is the very grave question as the possibility of salvaging the Government investment in the shipyards in any other way than by building ships in these yards. In other words, if additional contracts were placed with the shipyards for private or for foreign account, the profits earned under these contracts would make it possible for the Government to secure a repayment of its advances for, or investment in, shipyard properties, which result can be reached in no other way.

GROUPING SHIPYARDS.

The various shipyards engaged in the Fleet Corporation program grouped in relative order of merit as regards workmanship, management, and freedom from controversy, are shown in tabular form (Exhibit "F").

EXHIBIT F.

Steel-ship yards.

Name.	Management.			Performance.[1]			Finances.			Workmanship.			Relations.		
	Good.	Fair.	Poor.	Good, %.	Fair, %.	Poor, %.	Strong.	Fair.	Weak.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
NORTH ATLANTIC DISTRICT.															
Atlantic Corporation			×			50			×		×				×
Bayles Shipyards (Inc.)			×			36			×		×			×	
Bethlehem (Fore River)	×					41	×				×			×	
Bethlehem (Moore)[2]	×				×		×			×				×	
Downey Shipbuilding Corporation		×			63				×	×				×	
Federal Shipbuilding Co	×			82			×			×			×		
Groton Iron Works			×		65				×		×				×
Newburgh Shipyards	×				79						×			×	
Providence Engineering Works	×			(3)	(3)	(3)		×		×			×		
Standard Shipbuilding Corporation		×				43		×			×		×		
Staten Island Shipbuilding Corporation		×				19	×			×			×		
Submarine Boat Corporation [4]	×					48	×				×			×	
Texas Steamship Co	×					40	×			×			×		
DELAWARE RIVER DISTRICT.															
Bethelehem (Harlan)			×			39	×					×		×	
Chester Shipbuilding Co			×			55			×		×				×
Wm. Cramp & Sons	×					28	×			×			×		
New York Shipbuilding Corporation	×					52	×			×			×		
Pusey & Jones Co. (New Jersey)			[5]×			49			×	×				×	
Pusey & Jones Co. (Pennsylvania)			[5]×			49			×	×				×	
Pusey & Jones Co. (Wilmington)			[5]×			53			×	×				×	
Sun Shipbuilding Co	×					33	×				×			×	
American International Shipbuilding Corporation [4]		×				27	×				×		×		
Merchants Shipbuilding Co [4]		×				47	×				×				×

[1] 100 per cent performance=43 equivalent deadweight tons per man per year.
[2] Building tugs. Performance per cent difficult to compute.
[3] No data.
[4] Agency yard.
[5] Management under W. G. Coxe showing greatly improved results.

Steel-ship yards—Continued.

Name.	Management.			Performance.			Finances.			Workmanship.			Relations.		
	Good.	Fair.	Poor.	Good, %.	Fair, %.	Poor, %.	Strong.	Fair.	Weak.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
MIDDLE ATLANTIC DISTRICT.															
Baltimore Dry Dock & Shipbuilding Co.[1]	X			X			X			X			X		
Bethlehem (Maryland)	X					36	X			X				X	
Carolina Shipbuilding Corporation[2]			X	(3)	(3)	(3)	X				X		X		
Newport News Shipbuilding & Dry Dock Co	X				66		X			X			X		
Virginia Shipbuilding Co		X				20			X	X					X
SOUTERN DISTRICT.															
Merrill-Stevens Shipbuilding Corporation			[4] X			28			X		X			X	
Oscar Daniels Co	X				65		X			X			X		
Tampa Shipbuilding & Engine Co.[5]															
Terry Shipbuilding Corporation			X						X			X		X	
Alabama Dry Dock & Shipbuilding Co															
Doulutt-Williams Shipbuilding Corporation		X							X			X	X		
Johnson Iron Works (Ltd.)	X						X			X			X		
Mobile Shipbuilding Co	X							X			X		X		
Nashville Bridge Co	X						X			X			X		
Pensacola Shipbuilding Co			X			50			X	X			X		
SOUTHERN PACIFIC DISTRICT.															
Bethlehem (Alameda)	X			127			X			X				X	
Hanlon Dry Dock & Shipbuilding Co.		X				52	X			X				X	
Long Beach Shipbuilding Co	X					41	X			X			X		
Los Angeles Shipbuilding & Dry Dock Co	X					43	X				X		X		
Moore Shipbuilding Co	X				69		X			X			X		
Pacific Coast Shipbuilding Co		X			76				X	X			X		
Southwestern Shipbuilding Co.[6]	X			X			X				X		X		
Union Construction Co	X				X		X			X			X		
Western Pipe & Steel Co	X					47	X			X			X		
NORTHERN PACIFIC DISTRICT.															
Albina Engine & Machine Works			X			44	X				X			X	
Ames Dry Dock & Shipbuilding Co		X				52	X				X		X		
Columbia River Shipbuilding Co	X			86			X				X				X
J. F. Duthie Co		X			64		X			X				X	
Northwest Steel Co	X				68		X				X				X
Seattle Northern Pacific Shipbuilding Co			X		X			X				X	X		
Skinner & Eddy, No. 1	X			88			X				X			X	
Skinner & Eddy, No. 2	X					44	X				X			X	
G. M. Standifer Construction Corporation	X					45			X		X			X	
Todd Dry Dock & Construction Co	X					49	X				X		X		
GREAT LAKES DISTRICT.															
American, Buffalo	X					51	X			X			X		
American, Chicago	X			81			X			X			X		
American, Cleveland[7]	X			X			X			X			X		
American, Detroit	X			87			X			X			X		
American, Lorain	X			80			X			X			X		
American, Superior	X				72		X			X			X		
Globe Shipbuilding Co	X				78		X			X			X		
Great Lakes Engine Works, Ashtabula	X			86			X			X			X		
Great Lakes Engine Works, Ecorse	X			82			X			X			X		
Manitowoc Shipbuilding Co	X			83			X			X			X		
McDougall Duluth Co	X				71		X			X			X		
Northwest Engine Works	X			(3)	(7)	(3)	X			X			X		
Saginaw Shipbuilding Co	X				74		X			X			X		
Toledo Shipbuilding Co	X					59	X			X			X		
Whitney Bros. Co	X			(3)	(3)	(3)	X			X			X		

[1] Large repair business.
[2] Agency yard.
[3] No data.
[4] Management under L. Prior; should show improvement.
[5] Absorbed by Oscar Daniels Co.
[6] Insufficient data to compute performance percentage.
[7] Large repair business also.

Wood hull contracts (rating).

Yard.	Contracted for.			Canceled or suspended.			Management.			Performance.			Financial.			Workmanship.			Freedom from controversy.		
	Ship.	Barge.	Tug.	Ship.	Barge.	Tug.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
NEW ENGLAND DISTRICT.																					
Cobb, Francis	0	2	0	0	1	0	×				×		×			×			×		
Crosby Navigation Co	0	2	0	0	0	0		×			×		×			×				×	
Crowninshield	0	0	12	0	0	0	×			×					×	×				×	
Cumberland Shipbuilding Co.	9	24	42	2	24	42		×		×					×	×				×	
Freeport Shipbuilding Co.	4	0	0	2	0	0			×		×				×	×				×	
Gilchrest, Geo. A	1	0	0	0	0	0	×				×		×			×			×		
Green, R. T	0	1	0	0	0	0		×		×			×				×			×	
Kelly-Spear Co	1	6	0	0	4	0		×		×			×				×		×		
Machias Ship Construction Co.	0	4	0	0	1	0		×		×				×			×			×	
Russell Shipbuilding Co.	6	0	0	0	0	0		×		×					×	×				×	
Sandy Point Shipbuilding Co.	2	2	0	0	0	0			×			×			×		×			×	
Shattuck, L. H. (Inc.)[1]	18	0	0	3	0	0		×		×				×			×			×	
NORTHERN ATLANTIC DISTRICT.																					
Brown & Sons, A. C	0	0	10	0	0	5	×				×		×			×			×		
Continental Shipbuilding Co	1	0	2	0	0	2		×				×			×		×		×		
Foundation Co.[2]	10	5	0	0	5	0	×			×			×			×			×		
Gas Engine & Power Co.	0	0	6	0	0	2	×				×			×		×			×		
Gildersleeve Ship Con	2	0	0	0	0	0		×			×				×		×				×
Groton Iron Works[3]	12	0	0	4	0	0			×		×				×		×				×
Housatonic Shipbuilding Co.[4]	10	0	0	4	0	0		×			×				×		×			×	
Int. S. B. & M. E. Corp.	0	0	5	0	0	0		×			×			×			×			×	
Johnson Shipyard Corporation	4	6	0	1	5	0		×			×			×		×				×	
Kingston Shipbuilding Co.	7	0	0	4	0	0			×		×			×		×			×		
Mathis Co., J. H	0	0	5	0	0	2	×				×		×			×			×		
Ship Construction & Trad.[3]	2	0	0	0	0	0			×			×			×			×			×
Sullivan Co., J. W	0	0	4	0	0	2	×					×		×		×			×		
Traylor Shipbuilding Co.[1]	10	0	0	2	0	0	×			×				×		×				×	
MIDDLE ATLANTIC DISTRICT.																					
Chance Marine Construction Co	0	0	6	0	0	3		×				×	×			×				×	
Coastwise Shipbuilding Co	0	5	0	0	2	0		×				×			×		×			×	
Crook Co., H. E	0	3	0	0	1	0			×			×	×				×			×	
Davis & Son, M. M	0	0	20	0	0	12	×			×					×	×				×	
Eastern Shore Shipbuilding Co.[5]	0	0	6	0	0	0			×		×				×		×				×
Maryland Shipbuilding Co[2]	6	0	0	2	0	0			×			×			×	×			×		
Missouri Valley Brass & Iron Co.[2]	7	0	0	5	0	0			×			×			×			×	×		
North Carolina Shipbuilding Co.[2]	4	0	0	2	0	0			×			×			×	×				×	
Smith & Sons, Henry [2]	8	0	0	6	0	0			×			×			×	×					×
Tenney, Chas. H.[4]	4	0	0	2	0	0			×			×			×		×		×		
Vinyard Shipbuilding Co.	0	0	3	0	0	2	×			×					×	×				×	
White Haven Shipbuilding Co.	0	2	0	0	0	0		×				×	×			×				×	
York River Shipbuilding Co.	8	0	0	6	0	0		×				×			×		×				×

[1] Agency.
[2] Cost plus.
[3] In hands of receiver.
[4] Taken over.
[5] Receivers sale on May 15.
[6] Cost plus.

Wood hull contracts (rating)—Continued.

Yard.	Contracted for.			Canceled or suspended.			Management.			Performance.			Financial.			Workmanship.			Freedom from controversy.		
	Ship.	Barge.	Tug.	Ship.	Barge.	Tug.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
SOUTHERN DISTRICT (EASTERN.)																					
American Shipbuilding Co.[1]	10	0	0	5	0	0	...	X	...	...	...	X	...	...	X	...	X	...	...	...	X
Gibbs Gas Engine Co.[1]	0	0	6	0	0	2	...	X	...	...	X	...	X	...	...	X	...	...	X	...	...
Morey & Thomas[1]	8	0	0	3	0	0	...	X	...	...	X	...	X	...	...	...	X	...	X	...	...
J. M. Murdock[1]	6	0	0	2	0	0	X	...	...	X	...	...	...	...	X	X	...	...	X	...	...
National Shipbuilding & Dry-dock Co.[2]	2	0	0	2	0	0	...	...	X	...	...	X	...	...	X	...	...	X	...	...	X
Southland Steamship Co.	0	0	7	0	0	0	...	X	...	..	X	...	...	...	X	...	X	...	...	X	...
St. Johns River Shipbuilding Co.[1]	8	6	0	3	3	0	X	...	...	...	X	...	...	X	...	X	...	...	...	...	X
Tampa Dock Co.[1]	8	0	0	3	0	0	...	X	...	...	X	...	X	...	...	...	X	...	...	X	...
United States Maritime Corporation[1]	9	0	0	6	0	0	...	X	...	...	X	...	...	X	...	...	X	...	...	...	X
GULF DISTRICT.																					
Beaumont Shipbuilding & Dry Dock Co.[1]	12	2	0	7	0	0	...	X	...	...	...	X	...	X	...	...	X	...	X	...	...
Heldenfels Bros.[1]	8	0	0	4	0	0	...	X	...	...	...	X	...	...	X	...	X	...	...	X	...
Lone Star Shipbuilding Co.[1]	8	0	0	2	0	0	...	X	...	...	X	...	...	...	X	...	X	...	...	X	...
McBride & Law[1]	6	0	0	3	0	0	X	...	...	...	X	...	...	X	...	...	X	...	X	...	...
McCammon, J. N.[1]	2	0	0	0	0	0	...	X	...	...	...	X	...	X	...	...	X	...	...	X	...
Midland Bridge[1]	8	10	0	0	8	0	X	...	...	...	X	...	...	X	...	...	X	...	...	X	...
National Oil Co.	28	0	0	16	0	0	X	...	...	X	...	...	X	...	...	X	...	...	X	...	...
Southern Dry Dock & Shipbuilding Co.[1]	10	0	0	4	0	0	...	...	X	...	...	X	...	...	X	...	...	X	...	X	...
Union Shipbuilding & Construction Co.[1]	12	3	0	6	0	0	...	X	...	...	X	...	...	X	...	...	X	...	...	X	...
Universal Shipbuilding Co.[1]	18	2	0	9	2	0	...	...	X	...	...	X	...	...	X	...	...	X	...	...	X
SOUTHERN DISTRICT (WESTERN).																					
Alabama Shipbuilding & Dry Dock Co.[1]	2	0	0	0	0	0	...	X	...	...	X	...	...	...	X	X	...	...	...	X	...
American Lumber Co.	0	8	0	0	7	0	...	X	...	...	...	X	...	X	...	...	X	...	...	X	...
Dantzler Shipbuilding & Dry Dock Co.	6	0	0	2	0	0	...	...	X	...	...	X	...	X	...	...	X	...	...	X	...
Dierks-Blodgett	12	0	0	7	0	0	...	...	X	...	X	...	...	...	X	...	X	...	...	X	...
Hodge Ship Co	8	0	0	5	0	0	...	X	...	...	X	...	X	...	...	...	X	...	...	...	X
Jahncke Shipbuilding Co.[1]	12	4	0	7	4	0	...	X	...	...	X	...	...	X	...	X	...	...	...	X	...
Murnan Shipbuilding Co.	4	0	0	2	0	0	...	...	X	...	...	X	...	...	X	...	...	X	...	...	X
SOUTHERN PACIFIC DISTRICT.																					
Benicia Shipbuilding Co.	5	0	0	2	0	0	...	X	...	...	X	...	...	X	...	...	X	...	...	X	...
Chandler, R. J.	6	0	0	0	0	0	X	...	...	...	X	...	X	...	...	...	X	...	X	...	...
Coos Bay Shipbuilding Co.	10	0	0	0	0	0	X	...	...	X	...	...	...	X	...	...	...	X	...	...	X
Fulton Shipbuilding Co.	12	0	0	3	0	0	...	X	...	X	...	...	X	...	...	...	X	...	...	X	...
Hammond Lumber Co.	7	0	0	0	0	0	...	X	...	X	...	...	X	...	...	...	X	...	...	X	...
Kruse & Banks	12	0	0	2	0	0	X	...	...	X	...	...	X	...	...	X	...	...	X	...	...
Main Iron Works	0	0	7	0	0	3	X	...	...	...	X	...	X	...	...	...	X	...	...	X	...
Rolph Shipbuilding Co.	8	0	0	3	0	0	...	X	...	...	...	X	...	X	...	...	X	...	...	X	...

[1] Cost plus.

[2] Cost plus; canceled.

Wood hull contracts (rating)—Continued.

Yard.	Contracted for.			Canceled or suspended.			Management.			Performance.			Financial.			Workmanship.			Freedom from controversy.		
	Ship.	Barge.	Tug.	Ship.	Barge.	Tug.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
NORTHERN PACIFIC DISTRICT.																					
Allen Shipbuilding Co	4	0	0	1	0	0	...	...	X	...	X	...	...	X	...	...	X	...	...	X	...
Babare Bros	5	0	0	1	0	0	...	X	...	...	X	...	X	...	...	X	...	...	...	X	...
Grant Smith Porter [1]	16	0	0	1	0	0	X	...	...	X	...	...	X	...	...	...	X	...	X	...	...
Grays Harbor Merchant Ship Corporation	25	0	0	4	0	0	X	...	...	X	...	...	X	...	...	X	...	...	X	...	...
Meacham & Babcock [2]	12	0	0	1	0	0	...	...	X	X	...	...	...	...	X	...	X	...	...	...	X
Nilson & Kelez	8	0	0	2	0	0	X	...	...	X	...	...	X	...	...	X	...	...	X	...	...
Pacific American Fisheries [1]	7	0	0	0	0	0	X	...	...	X	...	...	X	...	...	X	...	...	X	...	...
Puget Sound Bridge & Derrick Co	8	0	0	4	0	0	...	X	...	...	X	...	X	...	...	...	X	...	...	...	X
Sanderson & Porter [1]	15	0	0	5	0	0	...	X	...	X	...	...	...	X	...	...	X	...	...	...	X
Seaborn Shipyards	14	0	0	1	0	0	X	...	...	X	...	...	X	...	...	...	X	...	X	...	...
Sloan Shipyards	16	0	0	4	0	0	...	...	X	...	...	X	...	...	X	...	...	X	...	...	X
Tacoma Shipbuilding Co.	10	0	0	2	0	0	X	...	...	X	...	...	X	...	...	X	...	...	X	...	...
Wright Shipyards	9	0	0	2	0	0	...	X	...	X	...	...	...	X	...	...	...	X	...	...	X
OREGON DISTRICT.																					
Coast Shipbuilding Co	12	0	0	4	0	0	X	...	...	X	...	...	X	...	...	X	...	...	...	X	...
Feeney & Bremer	2	0	0	1	0	0	...	...	X	...	X	...	...	...	X	...	X	...	...	...	X
Grant-Smith-Porter [1]	34	0	0	2	0	0	X	...	...	X	...	...	X	...	...	...	X	...	X	...	...
McEachern Ship Co	20	0	0	9	0	0	X	...	...	X	...	...	...	X	...	X	...	...	...	X	...
Peninsula Shipbuilding Co.[1]	12	0	0	0	0	0	X	...	...	...	X	...	...	X	...	X	...	...	...	X	...
Rodgers, Geo. F	8	0	0	4	0	0	...	...	X	...	X	...	...	...	X	...	X	...	...	...	X
Sommarstrom	8	0	0	1	0	0	...	X	...	X	...	...	...	...	X	X	...	...	X	...	...
Standifer, G. M	26	0	0	7	0	0	...	X	...	...	X	...	...	...	X	...	X	...	...	X	...
St. Helens Shipbuilding Co	6	0	0	2	0	0	...	X	...	...	X	...	...	...	X	X	...	...	...	...	X
Supple & Ballin	12	0	0	1	0	0	...	X	...	X	...	...	...	X	...	X	...	...	...	X	...
Wilson Shipbuilding Co.	10	0	0	3	0	0	X	...	...	X	...	...	X	...	...	X	...	...	...	X	...
GREAT LAKES DISTRICT.																					
Burger Boat Co	0	0	6	0	0	0	...	X	...	...	X	...	...	X	...	X	...	...	X	...	...
Dachel-Carter Boat Co	0	0	5	0	0	3	...	X	...	...	X	...	...	...	X	...	X	...	X	...	...
Lake & Ocean Navigation Co	1	0	0	0	0	0	...	X	...	...	X	...	...	...	X	...	X	...	...	X	...
Leatham & Smith	0	0	12	0	0	0	...	X	...	...	X	...	...	X	...	...	X	...	...	X	...
McLouth, Sydney	0	0	9	0	0	0	X	...	...	...	...	X	...	...	X	X	...	...	X	...	...
Northwest Engineering Works	0	0	17	0	0	0	X	...	...	X	...	...	...	...	X	X	...	...	...	X	...
Universal Shipbuilding Co	0	0	3	0	0	0	...	X	...	...	X	...	X	...	...	...	X	...	...	X	...

[1] Cost plus.

[2] In hands of receiver.

Wood hull contracts (ratings)—Continued.

INSTALLATION CONTRACTS (RATINGS).

Yard.	Contracted for.	Canceled.	Alive.	Management.			Performance.			Financial.			Workmanship.			Freedom from controversy.		
				Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.
Portland Ship Ceiling Co	16	6	10		X		X					X	X			X		
Cumberland Shipbuilding Co.[1]	15	6	9		X				X			X	X			X		
Lord Construction Co	21	12	9		X		X			X			X				X	
Todd Ship Co	10	3	7			X			X	X				X				X
Maryland Shipbuilding Co.[2]	5	3	2		X				X			X		X				X
Jacksonville S. O. Yard	25	10	15		X		X			X			X				X	
Tampa Dock Co	5	1	4		X				X		X			X			X	
Hodge Ship Co	4	1	3		X			X			X				X			X
Jahncke Shipbuilding Co	6	2	4	X				X			X		X				X	
Alabama Dry Dock and Shipbuilding Co	2		2		X			X		X			X				X	
Johnson Iron Works	8	6	2			X			X	X				X				X
Dierks-Blodgett Co	6	1	5			X		X			X			X			X	
Beaumont Shipbuilding and Dry Dock Co.[3]	28	19	9		X			X			X			X		X		
Lone Star Shipbuilding Co	20	13	7		X				X			X		X			X	
Main Iron Works	13	5	8	X			X			X				X			X	
National Engine Co	8	3	5		X			X			X			X			X	
Hammond Lumber Co	7	3	4	X				X		X				X			X	
Barnes & Tibbitts	13	9	4		X		X				X			X			X	
Grays Harbor Merchant Ship Co.	25	8	17	X			X				X			X		X		
Puget Sound Bridge & Derrick Co	8	6	2		X				X		X			X			X	
Moore Construction Co	10	5	5	X			X			X			X					X
Pacific Coast Engine Co	6	2	4		X		X			X			X				X	
Heffernan Engine Works	4		4		X			X		X			X					X
Seaborn Ship Yard	8		[4] 10	X			X			X			X				X	
Coast Shipbuilding Co	4		4	X			X				X		X				X	
Pacific Marine Iron Works	16	8	8		X		X				X			X				X
Astoria Marine Iron Works	27	10	17		X		X			X			X				X	
Chandler Co., R. J	4	2	2		X			X		X				X		X		
Hartzell, D. W	10	8	2			X			X		X			X				X
Meacham & Babcock[5]	6	4	2			X		X				X		X			X	

[1] Taken over by Emergeney Fleet Corporation.
[2] Emergency Fleet Corporation taking over as storage yard.
[3] Used as storage yard by Emergency Fleet Corporation.
[4] Two more hulls being installed than contract calls for.
[5] In hands of receiver.

ACTIVITIES OF SHIPYARD PLANTS DIVISION.

REPORT TO DIRECTOR GENERAL CHARLES PIEZ BY REAR ADMIRAL H. H. ROUSSEAU, AS OF APRIL 21, 1919.

ORGANIZATION.

Shipyard Plants Division was established August 19, 1917, with Rear Admiral H. H. Rousseau (C. E. C.), United States Navy, as manager. Commander Reuben E. Bakenhus (C. E. C.), United States Navy, was appointed assistant manager August 27, 1917. Mr. G. H. S. Rollason is assistant to manager, and Mr. J. Byron Barton is chief clerk.

Briefly, the activities of the division relate to work arising in connection with locating, laying out, constructing, extending, and repairing shipbuilding and ship-repair plants, installation plants, manufacturing plants, storage yards, dry docks, and marine railways; and millitary barracks and fire protection facilities for such utilities, when the expenses of such projects are defrayed with Fleet Corporation funds. The division also advises with and exercises a certain amount of supervision over the plant construction work of shipbuilding companies undertaken with their own funds, in order to insure the safety of ships under construction from accident or fire, and their successful launching when completed.

The home office staff of the division is divided into sections, in order more efficiently to conduct its work, and the activities of the division will be described somewhat more in detail by outlining briefly the functions and duties of the various sections.

SHIPYARD PLANTS CONSTRUCTION SECTION.

The jurisdiction of this section comprises:

Consultation in conjunction with the contracts and site investigation section as to the necessity for and location of shipyard construction projects, or extensions or additions thereto, in which the corporation is financially interested.

Review and approval of general and detail plans and specifications, estimates, and proposed construction methods for such projects, and extensions or additions thereto.

Supervision of construction work, including ways, buildings, utilities, and all other factors entering into such projects and extensions or additions thereto; such supervision includes approval of orders,

contracts and subcontracts for and inspection of all material and equipment.

Engineering and construction supervision of industrial plants, or extensions or additions thereto, in which the corporation is financially interested, and of barracks for armed guards.

Collection of information regarding the arrangement, equipment, capacity, cost, etc., of projects under its jurisdiction.

Since the shipbuilding activities of the corporation have ceased to expand, this section has been called upon to review and advise upon proposed settlements where contracts involving plant expenditures have been suspended or canceled.

The closing down of some yards having made possible and necessary the reallocation of certain machinery and equipment, this section acts in conjunction with the Supply Division in reallocating such machinery, equipment, and material. The section also makes recommendations as to the disposal of surplus material.

From time to time as various claims involving plant expenditures are presented by contractors, they are referred to this section for review before submitting them to the Director General for final action.

To sum up the activities of this section in a general way, it might be said that while in the section there rests no absolute authority for action, the members of the section do act in a consulting capacity on plant construction matters and on claims and settlements between contractors and the Fleet Corporation.

Upon the discontinuance of the fire-protection section and the concrete yard construction section of the divisions the duties of those sections were transferred to the shipyard plants construction section.

CONCRETE YARD CONSTRUCTION SECTION.

The concrete yard construction section was established by Special Order No. 172, with Mr. C. A. Pohl as head, to exercise general consulting and supervising jurisdiction in the home office over the work of locating and constructing concrete shipyards. When the five Government concrete yards were practically completed, the remaining activities of the section were transferred on February 15, 1919, to the shipyard plants construction section.

FIRE-PROTECTION SECTION.

The fire-protection section grew out of the offer of the National Board of Fire Underwriters in September, 1917, to extend to the Fleet Corporation the services and facilities of their Nation-wide organization of fire-protection inspectors and experts, without charge, except for the nominal sum of $1 per year in each case. Mr. C. T.

Bissell was head of the section from September, 1917, to November, 1918, and Mr. R. C. Dennett from November, 1918, to March, 1919, when the work was practically completed, and the National Board of Fire Underwriters withdrew their engineers, whereupon the work of the section was transferred to the shipyard plants construction section. The fire-protection section supervised the inspection of 186 of the shipyards; 105 were inspected by engineers of the section, the remaining 81 being inspected by engineers of various bureaus of the National Board of Fire Underwriters, and, based on those inspections, improvements were ordered in 156 yards. As a result of the work of this section, fire losses in shipyards have been remarkably low. During the 12 months ending March, 1919, the losses were $320,007, out of a total value of one and a half billion dollars, or a loss of two-one hundredths of 1 per cent. Although 519 fires broke out, in only 17 cases was there a loss of over $1,000.

THE CONTRACTS AND SITE INVESTIGATION SECTION.

This section investigates the sites of proposed new plants or proposed extensions of plants, and reports to the manager of the division on the desirability of such sites. It also advises as to the terms of contracts to be entered into for proposed new plants or proposed extensions of plants, and as to the desirability of making changes in existing contracts which provide for plant construction or extension. It also advises on claims made by contractors and conducts investigations into the merits of such claims.

DESIGNING SECTION.

The work of the designing section originally consisted of making analyses and giving such technical advice regarding shipyard structures as was required by other engineers of the division in the performance of their duties.

The work of checking launching calculations and plans of launching ways, being common to all shipyards, was a matter over which the designing engineer was given original jurisdiction. To facilitate this work calculations were made and diagrams drawn up for a considerable number of the Emergency Fleet Corporation standard ships.

Plans for floating dry docks, for the construction of which the Fleet Corporation was considering advancing funds, were checked prior to their approval; later on when the preparation of detailed plans by the Emergency Fleet Corporation was undertaken, this work fell naturally to the designing section, and at present constitutes probably 90 per cent of the work done in it. Detail plans for a timber sectional floating dry dock of 12,000 tons lifting capacity (6 sections),

based upon the general design of the Bureau of Yards and Docks, Navy Department, were over 75 per cent complete on April 30.

Preliminary studies in the design of a reinforced concrete floating dry dock of similar dimensions have been in progress for some time, the purpose of these studies being to determine the governing feature of a design which it is expected will be undertaken in the future.

DRY DOCK AND MARINE RAILWAY SECTION.

The functions of this section are:

(*a*) Liaison with the Port and Harbor Facilities Commission in regard to docking requirements.

(*b*) Determination of the necessity and the location of marine railways and vessel repair plants required for the construction needs of the Emergency Fleet Corporation.

(*c*) Inspection of sites, information, investigation, and recommendation of the adequacy, practicability, and possible working efficiency of proposed dry docks, marine railways, and vessel repair plants in connection with negotiations of contracts therefor.

(*d*) Supervision of construction of dry docks, marine railways, and vessel repair plants, including approval of subcontracts and orders for material, and equipment, entering therein.

(*e*) Preparation and analysis of progress reports on the construction of dry docks, marine railways, and vessel repair plants.

Up to April 30, 1919, there had been completed with funds loaned by the Emergency Fleet Corporation four 2,500-ton marine railways, one 4,000-ton marine railway, one 20,000-ton floating dry dock. There are under construction: One 6,000-ton floating dry dock, two 8,000-ton floating dry docks, three 10,000-ton floating dry docks, two 465-foot graving docks, four 2,500-ton marine railways, two 3,200-ton marine railways, one 4,000-ton marine railway.

The above dry docks are being constructed in connection with repair plants adequate to repair vessels of their respective capacities.

Besides the above dry docks and marine railways, the Emergency Fleet Corporation has undertaken eight 10,000-ton floating dry docks, of a sectional type, based on designs of the Bureau of Yards and Docks of the Navy Department. These docks will be leased or sold to private interests when completed.

DREDGING SECTION.

The functions of this section are to exercise such supervision over dredging operations at all shipyards constructing vessels for the Fleet Corporation that this work may be completed at the proper time, and it is particularly interested in having all launching basins and approach channels in proper shape so that ships may be safely launched and proceed to sea without delay.

Summary.

Number of yards where dredging has been in progress	108
Number of yards where Emergency Fleet Corporation is directly interested	45
Number of yards privately owned	63
	108
Cubic yards of material dredged	18,420,000
Total estimated cost	$4,775,000
Average cost per yard	$0.26

Hog Island was not included in the above, where 6,244,952 cubic yards were dredged, costing $2,858,888.68, or $0.458 per yard. This yard was not under the supervision of the dredging section. As a result of the work done, no vessel has been delayed in launching due to lack of dredging or in getting to sea except at the bar of the Atchafalaya River, where the dredging work was done by and at the expense of the War Department and was beyond the control of the Emergency Fleet Corporation.

POWER SECTION.

The power section was established on June 26, 1918, under the jurisdiction of the vice president in charge of construction, with Mr. F. W. Ballard as head, remaining there until it was transferred to Shipyard Plants Division, on September 3, 1918; Mr. Ballard continued as head until November 30, 1918, when he resigned owing to ill health, and Mr. Rollason was assigned this section in addition to his duties as assistant to manager.

The jurisdiction of the power section is outlined in the special order establishing the section in shipyard plants, as follows:

> Survey of power conditions in localities in which shipbuilders and other contractors of the Emergency Fleet Corporation are concerned; preparation of reports on power requirements; preparation of proposals and plans for providing adequate power facilities; general jurisdiction in matters pertaining to the power interests of the corporation and its contracting agents.

All shipyard plants on the Atlantic and Gulf coasts were visited by representatives of this section and detailed reports made on their power requirements.

Rate schedules of the various public service corporations supplying the plants were collected, and plans to correct the defects in some of the existing power contracts were made to secure the best possible rates for the service.

A general survey of the present and probable future power supply was made in the various sections.

Special power investigations and reports were made on request for the purpose of assuring a proper power supply to essential industries.

Special investigations were made in connection with the Public Service Corporation of New Jersey; one on the Philadelphia Electric Co.'s request for relief which involved a detailed investigation of all possible sources of power in the Philadelphia district and developed a very different situation than had been represented, and one on the power situation in the Norfolk and Newport News district.

PROPERTY INVENTORY AND CUSTODY SECTION.

The creation of the section was under Special Order No. 128, dated August 30, 1918, and supplemented later as to increased activities by General Order No. 164.

Its purpose was to identify and record all equipment relating to plant and property, in which the Emergency Fleet Corporation has ownership.

The status of the work as of April 1, 1919, is given on the progress chart attached, which shows 336 projects, distributed as follows:

Steelyards	64
Wood yards	82
Concrete yards	7
Transportation projects	24
Manufacturing plants	20
Housing projects	26
Storage yards and warehouses	40
Furniture and fixtures in home and branch offices	73
Total	336

Besides the above, the section is inventorying automobiles, launches, and miscellaneous equipment belonging to the corporation. The charts as of April 15 show field and office work on inventories completed in 233 of the projects. The present indications are that field work will be completed for all projects by April 30, 1919, with the exception of the three large fabricated yards and projects still in course of construction.

At the same time this section is accomplishing financial accounting of the Emergency Fleet Corporation expenditures as to plant and property, and reconciling Emergency Fleet Corporation and contractor's accounts.

Included in General Order No. 164 is the appraisal of Emergency Fleet Corporation interest in all projects. This work has been started in about 15 different projects.

RECORDS AND PROGRESS SECTION.

The functions of this section consist in establishing and systematizing methods of recording, tabulating, and reporting data in regard to shipyards and other plants in which the corporation has any financial interest; charting plant locations and layouts showing

the main features thereof; analyzing and abstracting contracts for the construction of shipyard plants, dry docks and marine railways; recording and criticising periodical progress reports as made by field representatives of the division concerning the construction and development of yards and plants; compiling periodically general data statements as to all shipyard plants constructing vessels for the corporation; and generally keeping closely in touch with the progress of shipyards and plant construction work and the expenses thereof.

Tabulation of shipyards showing ultimate Emergency Fleet Corporation interest by investment and advance and/or loan.

NEW ENGLAND DISTRICT.

Name and location.	Investment.	Advance and/or loan.
WOOD-SHIP YARDS.		
Crowninshield Shipbuilding Co., South Somerset, Mass	$41,200	$141,000
Cumberland Shipbuilding Co., Portland, Me	37,400	335,000
Freeport Shipbuilding Co., South Freeport, Me	23,300	.....
G. A. Gilchrest, Thomaston, Me	12,500	.....
Kelly-Spear Co., Bath, Me	8,400	.....
Machias, Maine, Machias, Me	119	25,000
Russel Shipbuilding Co., East Deering, Me	31,500	.....
L. H. Shattuck, Newington, N. H	710,000	.....
Sandy Point Shipbuilding Corporation, Sandy Point, Me	39,200	25,000

NORTH ATLANTIC DISTRICT.

WOOD-SHIP YARDS.		
Johnson Shipyard Corporation, Mariners Harbor, N. Y	$12,222	.....
Kingston Shipbuilding Corporation, Kingston, N. Y	7,346	.....
Ship Construction & Trading Co., Stonington, Conn	31,547	.....
Groton Iron Works, Noank, Conn	14,631	.....
Gildersleeve Shipbuilding Co., Gildersleeve, Conn	6,325	.....
Foundation Co., Newark, N. J	1,599,164	.....
Traylor Shipbuilding Corporation, Cornwells Heights, Pa	1,630,000	.....
Housatonic Shipbuilding Co., Stratford, Conn	600,000	.....
STEEL-SHIP YARDS.		
Atlantic Corporation, Portsmouth, N. H	994	$2,249,876
Groton Iron Works, Groton, Conn	3,477	2,200,000
Texas Steamship Co., Bath, Me	107,417	.....
Bethlehem Shipbuilding Corporation, Elizabeth, N. J	14,828	.....
Staten Island Shipbuilding Co., Mariners Harbor, N. Y	28,000	.....
Downey Shipbuilding Co., Mariners Harbor, N. Y	57,376	3,255,000
Federal Shipbuilding Co., Kearney, N. J	229	58,431
Bayles Shipyard (Inc.), Port Jefferson, N. Y	41,832	1,165,000
Newburgh Shipyards, Newburgh, N. Y	43,306	1,650,000
Submarine Boat Corporation, Newark, N. J	18,166,592	.....
Standard Shipbuilding Corporation, Shooters Island, N. Y	700,000	3,340,372
Providence Engineering Corporation, City Island, N. Y	.....	100,000

DELAWARE RIVER DISTRICT.

STEEL-SHIP YARDS.		
Bethlehem Shipbuilding Corporation, Wilmington, Del	$165,432	.....
Chester Shipbuilding Co., Chester, Pa	45,000	$1,000,000
New York Shipbuilding Corporation (old yard establishment, plate and angle shop, south yard), Gloucester, N. J	15,445,120	.....
Pusey & Jones:		
Gloucester, N. J	26,462	6,718,000
Wilmington, Del	5,450	692,575
Sun Shipbuilding Co., Chester, Pa	38,293	2,000,000

Tabulation of shipyards showing ultimate Emergency Fleet Corporation interest by investment and advance and/or loan—Continued.

MIDDLE ATLANTIC DISTRICT.

Name and location.	Investment.	Advance and/or loan.
WOOD-SHIP YARDS.		
C. H. Tenny & Co., Newcomb Lifeboat Co., Hampton, Va	$270,900	.....
York River Shipbuilding Corporation, West Point, Va	93,000	.....
M. M. Davis & Sons, Solomons, Md	28,000	$50,000
North Carolina Shipbuilding Co., Morehead City, N. C	58,000	.....
Missouri Valley Bridge & Iron Co., Quantico, Va	891,900	.....
Henry Smith & Sons, Baltimore, Md	120,000	.....
Maryland Shipbuilding Co., Sollers Point, Md	900,000	.....
STEEL-SHIP YARDS.		
Bethlehem Shipbuilding Corporation, Sparrows Point, Md	3,100,000	.....
Baltimore Dry Dock & Shipbuilding Co., Baltimore, Md	.....	1,600,000
Virginia Shipbuilding Corporation, Alexandria, Va	.....	1,000,000
Newport News Shipbuilding & Dry Dock Co., Newport News, Va	800,000	.....
Carolina Shipbuilding Corporation, Wilmington, N. C	2,282.000	.....
CONCRETE-SHIP YARDS.		
Liberty Shipbuilding Co., Wilmington, N. C	833,355	.....

SOUTHERN DISTRICT (EASTERN SECTION).

WOOD-SHIP YARDS.		
American Shipbuilding Co., Brunswick, Ga	$11,478	$90,000
Morey & Thomas, Jacksonville, Fla	3,571	.....
J. M. Murdock, Jacksonville, Fla	275,000	.....
National Shipbuilding & Dry Dock Co., Savannah, Ga	241,291	.....
Southland Steamship Co., Savannah, Ga	16,206	50,000
Tampa Dock Co., Tampa, Fla	73,972	80,000
United States Maritime Corporation, Brunswick, Ga	42,522	100,000
Oscar Daniels, Tampa, Fla	9,709	400,000
Merrill-Stevens Shipbuilding Co., Jacksonville, Fla	.....	1,939,000
Terry Shipbuilding Co., Savannah, Ga	31,871	1,552,000
CONCRETE-SHIP YARDS.		
Liberty Shipbuilding Co., Brunswick, Ga	156,807	.....
A. E. Bentley & Sons, Jacksonville, Fla	925,000	.....

SOUTHERN DISTRICT.

WOOD-SHIP YARDS.		
Dantzler Shipbuilding Co., Moss Point, Miss	$11,470	.....
Dierks-Blodgett Shipbuilding Co., Pascagoula, Miss	327,055	$75,000
Hodge Ship Co., Moss Point, Miss	17,366	50,000
Alabama Shipbuilding & Dry Dock Co., Pinto Island, Ala	135,902	.....
Jahncke Shipbuilding Co., Madisonville, La	800,000	.....
Gulf Coast Transportation Co., New Orleans, La	77,000	.....
Murnan Shipbuilding Co., Moss Point, Miss	13,600	.....
Merrill-Stevens Shipbuilding Co., Slidell, La	6,114	.....
STEEL-SHIP YARDS.		
Mobile Shipbuilding Co., Mobile, Ala	1,102	2,593,114
Alabama Shipbuilding & Dry Dock Co., Mobile, Ala	2,820	.....
Johnson Iron Works, New Orleans, La	1,753	148,897
Pensacola Shipbuilding Co., Pensacola, Fla	.....	1,226,000
Doullutt & Williams, New Orleans, La	.....	600,000
CONCRETE-SHIP YARDS.		
F. T. Ley Co., Mobile, Ala	1,466,370	.....

Tabulation of shipyards showing ultimate Emergency Fleet Corporation interest by investment and advance and/or loan—Continued.

GULF DISTRICT.

Name and location.	Investment.	Advance and/or loan.
WOOD-SHIP YARDS.		
McBride & Law, Beaumont, Tex	$14,000	.....
National Oil Co., Orange, Tex	2,200	.....
Union Bridge & Construction Co., Morgan City, La	360,100	.....
Lone Star Shipbuilding Co., Beaumont, Tex	17,500	.....
J. N. McCammon, Beaumont, Tex	20,200	$41,000
Midland Bridge Co., Houston, Tex	355,600	.....
Beaumont Dry Dock & Shipbuilding Co., Beaumont, Tex	31,500	.....
Heldenfels Bros., Rockport, Tex	127,990	120,000
Universal Shipbuilding Co., Houston, Tex	67,000	85,000
Southern Dry Dock & Shipbuilding Co., Orange, Tex	15,000	90,000
Tools credited to contractors whose contracts were charged to cost plus	200,000	.....

SOUTHERN PACIFIC DISTRICT.

STEEL-SHIP YARDS.		
Western Pipe & Steel Co., South San Francisco, Calif	$41,700	$500,000
Union Industrial Works, Oakland, Calif	.....	700,000
Southwestern Shipbuilding Co., San Pedro, Calif	23,500	.....
Pacific Coast Shipbuilding Co., Bay Point, Calif	7,000	700,000
Moore Shipbuilding Co., Oakland, Calif	9,000	.....
Los Angeles Shipbuilding & Dry Dock Co., San Pedro, Calif	76,500	600,000
Long Beach Shipbuilding Co., Long Beach, Calif	38,000	.....
Hanlon Dry Dock & Shipbuilding Co., Oakland, Calif	37,000	979,125
Bethlehem Shipbuilding Co. (Liberty plant), Alameda, Calif	8,000,000	.....
Bethlehem Shipbuilding Co. (Union plant), Alameda, Calif	1,500,000	.....
WOOD-SHIP YARDS.		
Rolph Shipbuilding Co., Humboldt Bay, Calif	2,400	.....
Kruse & Banks, North Bend, Oreg	3,000	.....
Hammond Lumber Co., Humboldt Bay, Calif	31,000	.....
Coos Bay Shipbuilding Co., Marshfield, Oreg	8,000	.....
R. J. Chandler (Inc.), Wilmington, Calif	6,800	.....
Benicia Shipbuilding Corporation, Benicia, Calif	29,768	.....
CONCRETE-SHIP YARDS.		
Scofield Engineering Works, San Diego, Calif	1,135,000	.....
San Francisco Shipbuilding Corporation, Oakland, Calif	930,000	.....

NORTHERN PACIFIC DISTRICT.

STEEL-SHIP YARDS.		
J. F. Duthie & Co., Seattle, Wash	$50,313	$300,000
Seattle North Pacific Shipbuilding Co., Seattle, Wash	6,557	765,000
G. M. Standifer Construction Corporation, Vancouver, Wash	7,400	2,175,750
Skinner & Eddy Corporation, Yard No. 2, Seattle, Wash	4,000,000	.....
Albina Engine & Machine Works, Portland, Oreg	41,400	.....
Todd Dry Dock & Construction Corporation, Tacoma, Wash	2,000,000	.....
Columbia River Shipbuilding Corporation, Portland, Oreg	465,219	285,000
Ames Shipbuilding Co., Seattle, Wash	10,400	.....
WOOD-SHIP YARDS.		
Allen Shipbuilding Co., Seattle, Wash	2,454	.....
Grant Smith-Porter Shipbuilding Co., Aberdeen, Wash	127,000	.....
Sloan Shipyards, Anacortes, Wash	3,700	.....
Sloan Shipyards, Olympia, Wash	5,600	.....
Pacific American Fisheries, South Bellingham, Wash	45,250	.....
Grays Harbor Motorship Corporation, Aberdeen, Wash	11,300	.....
Barbare Bros., Tacoma, Wash	5,700	.....
Seaborn Shipyards, Tacoma, Wash	12,300	.....
Tacoma Shipbuilding Co., Tacoma, Wash	9,700	.....
Puget Sound Bridging & Dredging Co., Seattle, Wash	22,800	.....
Nilson & Kelez, Seattle, Wash	7,000	.....
Meacham & Babcock	2,500	.....
Sanderson & Porter, Raynard, Wash	467,000	.....

Tabulation of shipyards showing ultimate Emergency Fleet Corporation interest by investment and advance and/or loan—Continued.

GREAT LAKES DISTRICT.

Name and location.	Investment.	Advance and/or loan.
American Shipbuilding Co., Chicago, Ill	$180	
American Shipbuilding Co., Cleveland, Ohio		
American Shipbuilding Co., Lorain, Ohio		
American Shipbuilding Co., Superior, Wis	250	
American Shipbuilding Co., Buffalo, N. Y		
American Shipbuilding Co., Wyandotte, Wis		
Globe Shipbuilding Co., Superior, Wis	17,200	
Manitowoc Shipbuilding Co., Manitowoc, Wis	203	
McDougal Duluth Shipbuilding Co., Duluth, Minn		
Saginaw Shipbuilding Co., Saginaw, Mich	500	
Toledo Shipbuilding Co., Toledo, Ohio	15,000	
Whitney Bros	6,250	

OREGON DISTRICT.

WOOD-SHIP YARDS.		
Coast Shipbuilding Co., Portland, Oreg		$80,000
Feeny & Bremer, Tillamook, Oreg	$36,000	
Grant Smith Porter Shipbuilding Co., Portland, Oreg	1,200,000	
Peninsula Shipbuilding Co., Portland, Oreg	44,322	
St. Helens Shipbuilding Co., St. Helens, Oreg	1,854	
Sommarstrom Shipbuildiug Co., Columbia City, Oreg	3,158	

Preliminary Report of Plant Disposal Section.

April 21, 1919.

From: Mr. B. E. Grant.

To: Admiral H. H. Rousseau.

1. The establishment of this section was authorized by Mr. Piez in a letter dated March 25, 1919. Preliminary work was begun April 14 with a limited force.

2. I have had interviews with the following on the work of this section: Mr. Coonley, Mr. Cox, Mr. McAuliffe, Mr. Davis, Mr. Rollason, and Mr. Allen, and the home office engineers. The subject of policy and methods to be used in handling the work of this section apparently have not crystalized or become very definite in the minds of any of these men, except as to certain special cases. Mr. Coonley suggested that the plants may be divided into two classes—first, those which are to be considered more or less permanent; second, those which are to be liquidated in the near future. He seems to think that the great majority of the plants will eventually become the property of the Emergency Fleet Corporation, through action on mortgages or cancellations. One of the subjects which seemed to impress itself upon his mind most strongly is in regard to the housing propositions. The housing propositions are not being considered by this section at the present time. He thinks that this matter should be handled by an officer in the Administration Division. He states that he would be glad to take up the work of this section again early next week and consider it more in detail with me.

3. The reports from the district plant engineers, giving recommendations as to disposal of plants, show that 23 plants are recommended to be disposed of as units. These reports are not yet completed and are subject to some revision, due to conditions peculiar to individual plants. Mr. Sanders has said verbally that possibly 35 or 40 plants would be acquired by the Emergency Fleet Corporation, as the result of cancellations.

PROGRESS CHART

PLANT-PROPERTY INVENTORY SECTION
SHIPYARD PLANTS DIVISION
EMERGENCY FLEET CORPORATION

DATE 4/5

CODE NO.	PLANT NAME	LOCATION	AUTH AGENT	FIELD WORK	OFFICE WORK	SURVEYS
[illegible]	SANDY POINT S B CO	SANDY POINT, ME				
[illegible]	[illegible]	THOMASTON, ME				
[illegible]	[illegible] S B CO	BATH, ME				
[illegible]	ATLEE? SPEAR CO	BATH, ME				
[illegible]	FREEPORT S B CO	FREEPORT, ME				
[illegible]	AVERILL S B CO	PORTLAND, ME				
[illegible]	CUMBERLAND S B CO	PORTLAND, ME				
[illegible]	CUMBERLAND S B CO	PORTLAND, ME				
[illegible]	L H SHATTUCK, INC	PORTSMOUTH, N H				
[illegible]	ATLANTIC CORP	PORTSMOUTH, N H				
[illegible]	BETHLEHEM S B CORP	QUINCY, MASS				
[illegible]	[illegible] S B CO	[illegible]				
[illegible]	GROTON IRON WORKS	GROTON, CONN				
[illegible]	MACHIAS S B CO	MACHIAS, ME				
[illegible]	PROVIDENCE ENG CO	CITY ISLAND, N Y				
[illegible]	[illegible] S B CO	[illegible]				
[illegible]	SUBMARINE BOAT CORP	NEWARK, N J				
[illegible]	GROTON IRON WORKS	NOANK, CONN				
[illegible]	S C & TRADING CO	STONINGTON, CONN				
[illegible]	HOUSATONIC S B CO, INC	STRATFORD, CONN				
[illegible]	KINGSTON S B CO	KINGSTON, N Y				
[illegible]	NEWBURGH SHIP YARD	NEWBURGH, N Y				
[illegible]	BAYLES SHIP YARD	PORT JEFFERSON, N Y				
[illegible]	FOUNDATION CO	KEARNEY, N J				
[illegible]	JOHNSTON SHIP YDS	[illegible]				
[illegible]	FEDERAL S B CO	NEWARK, N J				
[illegible]	DOWNEY S B CORP	ARLINGTON, S I N Y				
[illegible]	STATEN ISLAND S B CORP	PT RICHMOND, S I N Y				
[illegible]	BETHLEHEM S B CORP	ELIZABETHPORT, N J				
[illegible]	STANDARD S B CO	SHOOTERS IS, N Y				
[illegible]	TRAYLOR S B CO	CORNWELLS HTS, PA				
[illegible]	[illegible] AMER COM S B CO	[illegible]				
[illegible]	LORD CONSTRUCTION CO	PROVIDENCE, R I				
[illegible]	STORAGE	[illegible]				
[illegible]	LUMBER STORAGE	[illegible], CONN				
[illegible]	LUMBER STORAGE YARD	PORTLAND, ME				
[illegible]	SHIPLEY BROS	NEW YORK, N Y				
[illegible]	METUCHEN WAREHOUSE	METUCHEN, N J				
[illegible]	[illegible] WAREHOUSE	PORTLAND, ME				
[illegible]	OTTER GEAR WAREHOUSE	BOSTON, MASS				
[illegible]	OTTER GEAR WAREHOUSE	BROOKLYN, N Y				
[illegible]	[illegible]	PORTLAND, ME				
[illegible]	PORTLAND SHIP CEILING CO	PORTLAND, ME				
[illegible]	[illegible] AMER METAL CO	PLAINFIELD, N J				
[illegible]	LEWISTON AUGUSTA MFG CO	BATH, ME				
[illegible]	BAY STATE ST RY CO	QUINCY, MASS				
[illegible]	[illegible]	BOSTON, MASS				
[illegible]	RICH LIGHT & R R CO	STATEN IS, N Y				
[illegible]	PUBLIC SERVICE RY	KEARNEY, N J				
[illegible]	PUBLIC SERVICE RY CO	NEWARK, N J				
[illegible]	NATIONAL [illegible] CORP	[illegible]				
[illegible]	HARRY A WOOD	[illegible]				
[illegible]	AUD OFFICE	NEWARK, N J				
[illegible]	BARRACKS	PORT JEFFERSON, N Y				
[illegible]	DIST OFFICE, CUSTOM HOUSE	BOSTON, MASS				
[illegible]	DIST OFFICE, 140 BROADWAY	NEW YORK, N Y				
[illegible]	DIST MAN OFF, [illegible]	BOSTON, MASS				
[illegible]	LEGAL OFFICE, 60 STATE ST	BOSTON, MASS				
[illegible]	SUPPLY OFF, [illegible]	BOSTON, MASS				
[illegible]	REP AS YARDS, [illegible]	[illegible]				
[illegible]	SUPPLY & [illegible] OFF, [illegible]	NEW YORK, N Y				
[illegible]	AUD OFFICE, [illegible] AVE	NEW YORK, N Y				
[illegible]	PUR & PROD OFFICE	PORTLAND, ME				
[illegible]	SUPPLY OFFICE	[illegible], N Y				
[illegible]	BARRACKS	BATH, ME				
[illegible]	NEW YORK S B CO	CAMDEN, N J				
[illegible]	SUN S B CO	CHESTER, PA				
[illegible]	CHESTER S B CORP	CHESTER, PA				
[illegible]	PUSEY & JONES	GLOUCESTER, N J				
[illegible]	AMERICAN INTER S B CORP	HOG ISLAND, PA				
[illegible]	MERCHANTS S B CORP	BRISTOL, PA				
[illegible]	NEW YORK S B CORP	CAMDEN, N J				
[illegible]	PUSEY & JONES	WILMINGTON, DEL				
[illegible]	BETHLEHEM S B CO	WILMINGTON, DEL				
[illegible]	OTTER GEAR WAREHOUSE	PHILA, PA				
[illegible]	LUMBER STORAGE YD [illegible]	PHILA, PA				
[illegible]	MC CLINTIC MARSHALL [illegible]	POTTSTOWN, PA				
[illegible]	MC CLINTIC MARSHALL [illegible]	LEETSDALE, PA				
[illegible]	STANDARD STEEL CAR CO	NEWCASTLE, PA				
[illegible]	PRESSED STEEL CAR CO	[illegible], PA				
[illegible]	JOHN [illegible], JR	PITTSBURGH, PA				
[illegible]	[illegible] WELDING SCHOOL	PHILA, PA				
[illegible]	PUBLIC SERVICE	GLOUCESTER, N J				
[illegible]	PUBLIC SERVICE RY CO	CAMDEN, N J				
[illegible]	SO PENN TRACTION CO	CHESTER, PA				
[illegible]	PHILA ELEC CO, [illegible]	PHILA, PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	PHILA RAPID TRANSIT CO	PHILA, PA				
[illegible]	[illegible]	ESSINGTON, PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible]	CHESTER, PA				
[illegible]	CRAMP & CO [illegible]	PHILA, PA				
[illegible]	BETH S B CO (HOME OFF)	BETHLEHEM, PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible] VILLAGE	[illegible], PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible] HOTELS	S W PHILA, PA				
[illegible]	SUPPLY DIVISION OFFICE	[illegible]				
[illegible]	[illegible] OFFICE, [illegible]	PHILA, PA				
[illegible]	[illegible] OFFICE, [illegible]	PHILA, PA				
[illegible]	[illegible]	BRISTOL, PA				
[illegible]	[illegible]	CAMDEN, N J				
[illegible]	[illegible]	CHESTER, PA				
[illegible]	[illegible]	[illegible]				
[illegible]	[illegible] OFFICE, [illegible]	[illegible], PA				
[illegible]	[illegible]	[illegible], PA				
[illegible]	[illegible]	[illegible], PA				
[illegible]	[illegible]	PHILA, PA				
[illegible]	[illegible]	PITTSBURGH, PA				
[illegible]	[illegible]	PITTSBURGH, PA				
[illegible]	[illegible]	POTTSTOWN, PA				

CODE NO.	PLANT NAME	LOCATION	AUTH AGENT	FIELD WORK	OFFICE WORK	SURVEYS
[illegible]	MARYLAND S B CO	SOLLERS PT, MD				
[illegible]	BETHLEHEM S B CORP	SPARROWS PT, MD				
[illegible]	M M DAVIS & SONS, INC	SOLOMONS, MD				
[illegible]	HENRY SMITH & SONS CO	BALTIMORE, MD				
[illegible]	MISSOURI VALLEY B & I CO	QUANTICO, VA				
[illegible]	YORK RIVER S B CO	WEST POINT, VA				
[illegible]	NEWPORT NEWS S B CO	NEWPORT NEWS, VA				
[illegible]	NEWCOMB LIFEBOAT CO	HAMPTON, VA				
[illegible]	NO CAROLINA S B CO	MOREHEAD CITY, N C				
[illegible]	LIBERTY S B CO	WILMINGTON, N C				
[illegible]	CAROLINA S B CORP	WILMINGTON, N C				
[illegible]	LUMBER STORAGE CO	BALTIMORE, MD				
[illegible]	OTTER GEAR WAREHOUSE	BALTIMORE, MD				
[illegible]	OTTER GEAR WAREHOUSE	NORFOLK, VA				
[illegible]	MOTOR WAREHOUSE	NORFOLK, VA				
[illegible]	WAREHOUSE ARMED GUARD	NORFOLK, VA				
[illegible]	CANTON WAREHOUSE	BALTIMORE, MD				
[illegible]	RICH BOILER PLANT	[illegible]				
[illegible]	AMERICAN CHAIN CO	NORFOLK, VA				
[illegible]	BALT CAR & FOUNDRY CO	BALTIMORE, MD				
[illegible]	NEWPORT NEWS & HAMPTON RY	HAMPTON, VA				
[illegible]	UNITED RY & ELEC CO	BALTIMORE, MD				
[illegible]	TIDEWATER POWER CO	WILMINGTON, N C				
[illegible]	HOUSES	ST HELENA, MD				
[illegible]	DISTRICT OFFICE, LEX BLDG	BALTIMORE, MD				
[illegible]	HOME OFFICE, 1319 F ST	WASHINGTON, D C				
[illegible]	AUD OFFICE, S B & [illegible]	NEWPORT NEWS, VA				
[illegible]	AUD OFFICE, [illegible]	RICHMOND, VA				
[illegible]	REP AS YDS & AUD OFFICE	WILMINGTON, N C				
[illegible]	ALEXANDRIA LIGHTING CO	ALEXANDRIA, VA				
[illegible]	TRANSPORTATION OFFICE	BALTIMORE, MD				
[illegible]	TERRY S B CORP	SAVANNAH, GA				
[illegible]	NATIONAL S B & D D CO	SAVANNAH, GA				
[illegible]	AMERICAN S B CO	BRUNSWICK, GA				
[illegible]	U S MARITIME CORP	BRUNSWICK, GA				
[illegible]	[illegible] S B CORP	MOBILE, ALA				
[illegible]	SOUTHLAND S B CO	SAVANNAH, GA				
[illegible]	ST JOHNS R SHIP YD CO	JACKSONVILLE, FLA				
[illegible]	J M MURDOCH	JACKSONVILLE, FLA				
[illegible]	[illegible] & THOMAS	JACKSONVILLE, FLA				
[illegible]	OSCAR DANIELS CO	TAMPA, FLA				
[illegible]	TAMPA DOCK CO	TAMPA, FLA				
[illegible]	LIBERTY S B CO	BRUNSWICK, GA				
[illegible]	A BENTLEY & SONS CO	JACKSONVILLE, FLA				
[illegible]	PENSACOLA S B CO	PENSACOLA, FLA				
[illegible]	MOBILE S B CO	MOBILE, ALA				
[illegible]	ALABAMA D D & S B CO	MOBILE, ALA				
[illegible]	[illegible] S B CORP	PASCAGOULA, MISS				
[illegible]	[illegible]	MOSS PT, MISS				
[illegible]	[illegible]	MOSS PT, MISS				
[illegible]	[illegible]	[illegible]				
[illegible]	[illegible] S B & D D CO	[illegible], LA				
[illegible]	FRED T LEY & CO	MOBILE, ALA				
[illegible]	GULF COAST TRANS CO	NEW ORLEANS, LA				
[illegible]	JACKSONVILLE SHIP OUTFITTING CO	JACKSONVILLE, FLA				
[illegible]	STORAGE YARD	GULFPORT, MISS				
[illegible]	LUMBER STORAGE	JACKSONVILLE, FLA				
[illegible]	LUMBER STORAGE	BRUNSWICK, GA				
[illegible]	WAREHOUSE	MOSS PT, MISS				
[illegible]	[illegible] WAREHOUSE	BRUNSWICK, GA				
[illegible]	[illegible] LUMBER STORAGE	TAMPA, FLA				
[illegible]	OTTER GEAR WAREHOUSE	NEW ORLEANS, LA				
[illegible]	TRANS TERRY S B CO	SAVANNAH, GA				
[illegible]	BARRACKS	JACKSONVILLE, FLA				
[illegible]	BARRACKS	TAMPA, FLA				
[illegible]	BARRACKS	[illegible]				
[illegible]	DIST OFFICE, HEARD BLDG	JACKSONVILLE, FLA				
[illegible]	DIST OFFICE, HIBERNIA	NEW ORLEANS, LA				
[illegible]	GARAGE	MOSS PT, MISS				
[illegible]	LEGAL & SUPPLY OFF, [illegible]	ATLANTA, GA				
[illegible]	AGENCY YDS OFFICE	BRUNSWICK, GA				
[illegible]	REA AGENCY YARDS	MOBILE, ALA				
[illegible]	OFFICE, AUDUBON BLDG	NEW ORLEANS, LA				
[illegible]	IND REL OFFICE, [illegible]	NEW ORLEANS, LA				
[illegible]	TRANS OFF, [illegible]	NEW ORLEANS, LA				
[illegible]	BARRACKS, U S MARITIME	BRUNSWICK, GA				
[illegible]	BARRACKS, TERRY S B CORP	SAVANNAH, GA				
[illegible]	WAREHOUSE	JACKSONVILLE, FLA				
[illegible]	BIRMINGHAM STEEL CORP	BIRMINGHAM, ALA				
[illegible]	JACKSONVILLE D D & REPAIR CO	JACKSONVILLE, FLA				
[illegible]	BARRACKS, AMER S B CO	BRUNSWICK, GA				
[illegible]	UNION BRIDGE & CON CO	MORGAN CITY, LA				
[illegible]	NATIONAL S B CO	ORANGE, TEX				
[illegible]	SOUTHERN D D & S B CO	ORANGE, TEX				
[illegible]	MC BRIDE & LAW	BEAUMONT, TEX				
[illegible]	LONE STAR S B CO	BEAUMONT, TEX				
[illegible]	BEAUMONT S B & D D CO	BEAUMONT, TEX				
[illegible]	BEAUMONT S B & D D CO	BEAUMONT, TEX				
[illegible]	UNIVERSAL S B CO	HOUSTON, TEX				
[illegible]	J H MC CAMMON	BEAUMONT, TEX				
[illegible]	MIDLAND BRIDGE CO	HOUSTON, TEX				
[illegible]	[illegible] BROS	ROCKPORT, TEX				
[illegible]	[illegible] S B CO	BEAUMONT, TEX				
[illegible]	TRANS OF HULLS, [illegible]	HOUSTON, TEX				
[illegible]	GALVESTON D D & S B CO	GALVESTON, TEX				
[illegible]	LUMBER STORAGE	BEAUMONT, TEX				
[illegible]	STORAGE YARD	PORT ARTHUR, TEX				
[illegible]	STORAGE YARD	ROCKPORT, TEX				
[illegible]	BARRACKS	BEAUMONT, TEX				
[illegible]	BARRACKS	ORANGE, TEX				
[illegible]	BARRACKS, SOUTHERN [illegible]	HOUSTON, TEX				
[illegible]	DIST OFFICE, CARTER BLDG	HOUSTON, TEX				
[illegible]	IND REL OFFICE, [illegible]	HOUSTON, TEX				
[illegible]	BARRACKS	ROCKPORT, TEX				

CODE NO.	PLANT NAME	LOCATION	AUTH AGENT	FIELD WORK	OFFICE WORK	SURVEYS
[illegible]	GREAT LAKES ENGR WORKS	ASHTABULA, OHIO				
[illegible]	TOLEDO S B CO	TOLEDO, OHIO				
[illegible]	AMERICAN S B CO	WYANDOTTE, MICH				
[illegible]	SAGINAW S B CO	SAGINAW, MICH				
[illegible]	AMERICAN S B CO	CHICAGO, ILL				
[illegible]	MANITOWOC S B CO	MANITOWOC, WIS				
[illegible]	NORTHWEST ENGR WORKS	GREEN BAY, WIS				
[illegible]	GLOBE S B CO	SUPERIOR, WIS				
[illegible]	AMERICAN S B CO	SUPERIOR, WIS				
[illegible]	MC DOUGALL DULUTH CO	DULUTH, MINN				
[illegible]	WHITNEY BROS	SUPERIOR, WIS				
[illegible]	FOUNDATION CO	[illegible]				
[illegible]	WAREHOUSE, [illegible] W 38TH ST	CHICAGO, ILL				
[illegible]	WAREHOUSE	ERIE, PA				
[illegible]	PENNA RY TERM WAREHOUSE	CHICAGO, ILL				
[illegible]	STORAGE, [illegible]	CLEVELAND, OHIO				
[illegible]	OTTER GEAR WAREHOUSE	CLEVELAND, OHIO				
[illegible]	JOHN [illegible] CO	DETROIT, MICH				
[illegible]	CONN [illegible] METAL WORKS	[illegible], CONN				
[illegible]	LAKE ERIE [illegible] WORKS	CLEVELAND, OHIO				
[illegible]	[illegible] CO	CLEVELAND, OHIO				
[illegible]	[illegible] STEEL CO	COLUMBUS, OHIO				
[illegible]	BARBER ASPHALT PAV CO	BUFFALO, N Y				
[illegible]	LAKE ERIE [illegible] WORKS	BUFFALO, N Y				
[illegible]	DULUTH ST RY CO	DULUTH, MINN				
[illegible]	DIST OFFICE, [illegible] BLDG	CLEVELAND, OHIO				
[illegible]	SUPPLY DIV [illegible] OFFICE	[illegible]				
[illegible]	SUPPLY DIV OFFICE	ST LOUIS, MO				
[illegible]	OFFICE OF TRANS DEPT	BUFFALO, N Y				
[illegible]	DIST OFF, SUP & TRANS, [illegible]	[illegible]				
[illegible]	TRANS OFF, UN CENTRAL BLDG	CINCINNATI, OHIO				
[illegible]	LEGAL OFF, [illegible]	CLEVELAND, OHIO				
[illegible]	SAFETY ENGR OFF, CENTURY BLDG	CLEVELAND, OHIO				
[illegible]	AUD OFF, RALSTON STEEL CAR	[illegible], OHIO				
[illegible]	AUD OFF, [illegible]	LORAIN, OHIO				
[illegible]	AUDITING OFFICE	MANITOWOC, WIS				
[illegible]	TRANS OFFICE, MET LIFE BLDG	[illegible]				
[illegible]	TRANS OFF, [illegible]	[illegible]				
[illegible]	SUPPLY & TRANS OFF, [illegible]	[illegible]				
[illegible]	AUDITING OFFICE	WYANDOTTE, MICH				
[illegible]	SUPPLY & TRANS OFF, CITY BLDG	[illegible]				
[illegible]	SUPPLY DIVISION	ERIE, PA				
[illegible]	SUPPLY DIVISION	HAMILTON, OHIO				
[illegible]	SUPPLY DIVISION	PITTSBURGH, PA				
[illegible]	SUPPLY DIVISION, TRANS DEPT	[illegible]				
[illegible]	SUPPLY DIVISION	BUFFALO, N Y				
[illegible]	SUPPLY DIVISION	[illegible]				
[illegible]	[illegible]	[illegible]				
[illegible]	[illegible]	[illegible]				
[illegible]	[illegible]	[illegible]				
[illegible]	LOS ANGELES S B & [illegible]	[illegible]				
[illegible]	W T CHANDLER	WILMINGTON, CAL				
[illegible]	WESTERN PIPE & STEEL CO	S SAN FRAN, CAL				
[illegible]	[illegible]	ALAMEDA, CAL				
[illegible]	[illegible] S B & [illegible]	OAKLAND, CAL				
[illegible]	MOORE S B CO	OAKLAND, CAL				
[illegible]	BENICIA S B CO	BENICIA, CAL				
[illegible]	PACIFIC COAST S B CO	BAY PT, CAL				
[illegible]	ROLPH S B CO	EUREKA, CAL				
[illegible]	HAMMOND LUMBER CO	[illegible]				
[illegible]	COOS BAY S B CO	MARSHFIELD, ORE				
[illegible]	KRUSE & BANKS	NORTH BEND, ORE				
[illegible]	UNION INDUSTRIAL CO	OAKLAND, CAL				
[illegible]	SAN FRANCISCO S B CO	SAN FRAN, CAL				
[illegible]	SCOFIELD ENG CO	SAN DIEGO, CAL				
[illegible]	MAIN IRON WORKS	SAN FRAN, CAL				
[illegible]	NATIONAL ENGR CO	WILMINGTON, CAL				
[illegible]	BARNES & TIBBETTS	ALAMEDA, CAL				
[illegible]	BARNES & TIBBETTS	ALAMEDA, CAL				
7901	WAREHOUSE, CHINA BASIN	SAN FRAN, CAL				
[illegible]	WAREHOUSE, SUPPLY	LOS ANGELES, CAL				
[illegible]	WAREHOUSE, ARMY ST	SAN FRAN, CAL				
[illegible]	SAN FRAN OAK TER CO	SAN FRAN, CAL				
[illegible]	SAN DIEGO ELEC RY CO	SAN DIEGO, CAL				
[illegible]	BETH S B CO, CAFETERIA	ALAMEDA, CAL				
[illegible]	DIST OFFICE, PINE ST	SAN FRAN, CAL				
[illegible]	DIST OFFICE, REP AS YDS	SAN DIEGO, CAL				
[illegible]	DIST OFFICE, SHELDON BLDG	SAN FRAN, CAL				
[illegible]	COLUMBIA R S B CO	PORTLAND, ORE				
[illegible]	ALBINA ENG MACH CO	PORTLAND, ORE				
[illegible]	SANDERSON & PORTER	RAYMOND, ORE				
[illegible]	SLOAN S YD CORP	OLYMPIA, WASH				
[illegible]	DEARBORN S YD CO	TACOMA, WASH				
[illegible]	[illegible] BROS	TACOMA, WASH				
[illegible]	TACOMA S B CO	TACOMA, WASH				
[illegible]	GRANT, SMITH, PORTER S B CO	ABERDEEN, WASH				
[illegible]	GRAYS HARBOR M B CO	TACOMA, WASH				
[illegible]	NILSON & KELEZ S B CORP	SEATTLE, WASH				
[illegible]	MEACHAM & BABCOCK	SEATTLE, WASH				
[illegible]	MEACHAM & BABCOCK	SEATTLE, WASH				
[illegible]	PUGET SOUND B & D D CO	SEATTLE, WASH				
[illegible]	D D ALLEN CO	SEATTLE, WASH				
[illegible]	SKINNER & EDDY S B CO	SEATTLE, WASH				
[illegible]	SEATTLE N PACIFIC S B CO	SEATTLE, WASH				
[illegible]	AMES S B & D D CO	SEATTLE, WASH				
[illegible]	J F DUTHIE & CO	SEATTLE, WASH				
[illegible]	SLOAN S YD CORP	ANACORTES, WASH				
[illegible]	PACIFIC AMER FISHERIES	BELLINGHAM, WASH				
[illegible]	SEATTLE CONST & D D CO	SEATTLE, WASH				
[illegible]	STANDIFER CLARKSON CO	VANCOUVER, WASH				
[illegible]	GRANT SMITH PORTER S CO	PORTLAND, ORE				
[illegible]	[illegible] & BELMER	TILLAMOOK, ORE				
[illegible]	ST HELENS S B CO	ST HELENS, ORE				
[illegible]	[illegible] S B CO	COLUMBIA C, ORE				
[illegible]	ASTORIA MARINE IRON WKS	ASTORIA, ORE				
[illegible]	WAREHOUSE, HANFORD ST	SEATTLE, WASH				
[illegible]	DIST WAREHOUSE, NO 1	PORTLAND, ORE				
[illegible]	LUMBER STORES	PORTLAND, ORE				
[illegible]	WAREHOUSE, ST JOHNS ST	PORTLAND, ORE				
[illegible]	E E C [illegible] WORKS	PORTLAND, ORE				
[illegible]	WILLAMETTE I & S CO	PORTLAND, ORE				
[illegible]	CITY OF TACOMA	TACOMA, WASH				
[illegible]	PORTLAND RY LT & PR CO	PORTLAND, ORE				
[illegible]	G M STANDIFER CONSTR CO	VANCOUVER, WASH				
[illegible]	DIST OFF, SECURITIES BLDG	SEATTLE, WASH				
[illegible]	DIST OFFICE, N W BANK	PORTLAND, ORE				
[illegible]	[illegible] BARRACKS	NORTH BEND, ORE				
[illegible]	DIST OFFICE	PORTLAND, ORE				
[illegible]	DIST OFFICE, [illegible]	[illegible], MONT				
[illegible]	DIST OFFICE, ALASKA BLDG	SEATTLE, WASH				
[illegible]	DIST OFFICE	TACOMA, WASH				

4. The tentative list of plants to be considered by this division shows a total of 71. No doubt a considerable number of these will be dropped from this list as soon as we have certain additional information on them. At the present time it seems to be impossible to formulate any general policy that might be applied to the disposal of all the plants, as the great variation in the contracts and supplemental agreements and the variety of leases and conditions of ownership of real estate introduce conditions that are necessarily considered in each case.

5. In the short time that has been available for the consideration of this work we have attempted to collect the following information:

Abstracts of contracts.

Information regarding ownership of land and leases.

Recommendations and reports from district officers.

Special information regarding each plant from home office engineers.

Information from the Inventory and Custody Section.

Collection of location plats and blue prints of shipyards.

6. The following plants have been recommended by district officers to be disposed of as units:

	Emergency Fleet Corporation investment.	Percentage of Emergency Fleet Corporation ownership.
W-1008. L. H. Shattuck (Inc.)	$710,000	100
S-1022. Submarine Boat Corporation	18,160,179	100
W-1025. Housatonic Shibpuilding Co	600,000	100
W-1036. Traylor Shipbuilding Co	1,630,000	90
1502. Lumber storage yard, Wilson Point	483,900	100
W-3005. Maryland Shipbuilding Co	800,000	100
W-3009. Missouri Valley Bridge & Iron Co	891,900	100
S-3011. Newport News Shipbuilding & Dry Dock Co	800,000	13
C-3021. Liberty Shipbuilding Co., Wilmington	833,355	100
S-3022. Carolina Shipbuilding Corporation	2,282,800	100
S-8001. Columbia River Shipbuilding Co	465,219	33
W-8031. Grant Smith-Porter Ship Co	1,200,000	100
C-4013. A. Bentley & Sons Co	925,000	100
W-4008. J. M. Murdock	275,000	100
C-4031. Fred. T. Ley & Co	1,466,370	100
S-4020. Mobile Shipbuilding Co	1,102	.....
W-8005. Sanderson & Porter	467,000	90
W-5001. Union Bridge & Construction Co	360,100	90
W-5009. Midland Bridge Co	338,895	100
2701, 2702. McClintic-Marshall	5,025,000	100
2704. Pressed Steel Car Co	267,000	100
6705. Ralston Steel Car Co	354,000	100
S-3006. Bethlehem Shipbuilding Corporation, Sparrows Point	3,635,500	36
	41,972,320	.....

7. The total estimated investment in the above yards is $41,972,320, and the total estimated cost of plants is $55,535,723. This is classified as follows:

	Approximate total cost.	Approximate Emergency Fleet Corporation investment.
10 wood yards	$7,504,341	$7,272,895
6 steel yards	38,642,979	25,344,800
3 concrete yards	3,242,403	3,224,725
3 fabricating plants	5,646,000	5,646,000
1 miscellaneous	500,000	483,900
Total	55,535,723	41,972,320

8. There is no doubt that if plants can be disposed of as units that they will net the largest financial returns on the Emergency Fleet Corporation investments in them. Then the problem resolves itself into the following:

First. Determine which plants are available for such disposal. A tentative list is given above, based on the recommendations of the district officers and the home office engineers. This list may be increased by future action on cancellations and foreclosure on mortgages. It may be decreased by conditions not yet definitely known by this section, such as limitations in the leases on real estate.

Second. Determine which of the above plants present reasonable possibilities for conversion to other than their present uses with the idea of finding the widest market. The home office engineers have made some suggestions along this line.

Third. Determine which plants will require action in the near future because of options in the contracts which must be exercised within a limited time after completion or cancellation of contract.

Fourth. After the above matters are decided, determine from the records of inventory and appraisal what is a reasonable basis for the sale or lease of each plant.

Fifth. Make contact with possible purchasers. Inquiries have already been received regarding the purchase or lease of certain plants, but the Corporation has not yet been in a position to return definite answers concerning the basis on which such sales or leases could be made.

RECOMMENDATION.

9. It is recommended that this section be instructed to take up for immediate consideration special plants, the disposal of which must be determined in the near future, and from this develop a policy and method to be followed. Also that the basis for a sale or a lease is to be determined partly by the value of the plant as a going concern and partly by writing off such portions as would be a loss in case of salvage.

B. E. GRANT,
Head, Plant Disposal Section.

PLANT EXPENDITURES.

1. I inclose for your information and use four basic or "control" sheets showing estimated total plant expenditures, to completion of work, both of "investment" and of "advance and/or loan," that have been compiled from the best sources of information by this division as of to date, and segregated under different appropriation heads.

2. Sheets 1 and 2 make one complete set and are exactly similar to sheets Nos. 3 and 4 as regards figures. The only difference is, as will be noted, in the heading of columns "Class B" and "Class C."

3. Under sheets 1 and 2 the appropriation charge or heading is detailed. Under sheets 3 and 4 the appropriation heading is general and not detailed. It is not known which of these headings you want to have used, so both sets have been prepared. The comptroller is understood to prefer the latter arrangement.

4. As you will note, the plant expenditures are all segregated as to districts, name of the yard, whether wood or steel yard, etc. Plant expenditures under the housing and transportation appropriations are not included on these sheets. All other plant expenditures have been classified generally under Classes A, B, C, D, and F.

5. *Class A* items fall under the two appropriations totaling $122,000,000, and are segregated into general shipyard, dry dock, and marine railway construction, fire protection, and protective light, fence, and barracks.

6. *Class B* itemizes expenditures out of the $80,000,000 set aside from ship construction appropriations.

7. *Class C* itemizes plant expenditures in wood yards, which, it is understood, will or have been absorbed in the cost of wood ships.

8. Under *Class F* are shown expenditures as an "advance" or "loan," paid out of ship construction appropriations.

9. *Class D* covers commitments on marine railways and dry docks contracted for since November 11, payable from the appropriation of $34,662,500, and indicates that about three-quarters of this appropriation remains unobligated at the present time.

10. Sheet 5 is a recapitulation of sheets 1 and 2 (and similarly of 3 and 4), and shows total estimated expenditures, both actual and authorized, to date, as follows:

Class A:	
Certain shipyard plants, etc., including certain marine railways and dry docks	$119,829,099
Fire protection	1,147,982
Protective lighting, fence, and barracks	720,966
Total	121,698,047
Unobligated balance of appropriation	301,953
Class B. Steel shipyards and accessory plants	49,231,208
Class C. Wood shipyards	12,408,492
Class D. Marine railways and dry docks	8,885,000
Class F. Advances and loans	59,415,508

11. This division is not satisfied with some of the figures shown on the inclosed sheets. As the Finance Division is in a position to give correct and complete information regarding expenditures and is the final arbiter on financial statements, it is suggested that the Finance Division be asked to make a verification of these figures. A copy of this letter and of all inclosures are going forward to the comptroller direct for this purpose.

H. H. ROUSSEAU,
Manager Shipyard Plants Division.

Emergency Fleet Corporation Investments.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.[1]			Class B, miscellaneous and general, estimated to complete.[2]	Class C, wood yards, miscellaneous and general, estimated to complete.[3]	Class F, sum totals for plants, estimated total.[4]
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	NEW ENGLAND DISTRICT.						
	WOOD-SHIP YARDS.						
1-A..	Sandy Point Shipbuilding Corporation	.....	[5] $39,200	.....	.....	.....	$25,000
1-B..	George A. Gilchrest	.....	4,150	$8,350	.....	.....	.....
1-D..	Kelley Spear Co.	.....	8,400	.....	.....	.....	.....
1-E..	Freeport Shipbuilding Co.	.....	13,350	9,950	.....	.....	.....
1-F..	Russell Shipbuilding Co.	.....	[5] 31,500	.....	.....	.....	.....
1-H..	Shattuck, L. H. (Inc.)	.....	.....	.....	.....	$710,000	.....
1-G..	Cumberland Shipbuilding Co.	.....	[5] 37,400	.....	.....	.....	200,000
1-K..	Crowninshield Shipbuilding Co.	.....	[5] 41,200	.....	.....	.....	141,000
1-P..	Machias Ship Construction Co.	.....	.....	.....	.....	119	25,000
	NORTH ATLANTIC DISTRICT.						
	STEEL-SHIP YARDS.						
1-C...	Texas Steamship Co.	$10,046	$71,070	$26,301	.....	.....	.....
1-I..	Atlantic Corporation	.....	.....	994	.....	.....	$2,249,876
1-L..	Groton Iron Works	.....	.....	3,477	.....	.....	2,100,000
2-C..	Submarine Boat Corporation	18,166,692	.....	.....	.....	.....	.....
2-M..	Downey Shipbuilding Corporation	.....	22,000	35,376	.....	.....	3,255,000
2-H..	Newburgh Shipyards (Inc.)	.....	[5] 43,306	.....	.....	.....	1,650,000
2-L..	Federal Shipbuilding Co.	.....	.....	229	.....	.....	58,431
2-I..	Bayles Shipyard (Inc.)	.....	[5] 41,832	.....	.....	.....	1,165,000
2-O..	Bethlehem (Moore plant)	372,000	16	14,440	.....	.....	.....
2-P..	Standard Shipbuilding Co.	.....	.....	.....	$700,000	.....	3,340,372
2-N..	Staten Island Shipbuilding Corporation	.....	.....	28,000	.....	.....	.....
2-A..	Providence Engineering Corporation	.....	.....	.....	.....	.....	100,000
	WOOD AND CONCRETE SHIPYARDS.						
2-B..	Gildersleeve Shipbuilding Co.	.....	6,325	.....	.....	.....	.....
2-K..	Johnson Shipyard Corporation	.....	.....	8,129	.....	$4,093	.....
2-D..	Groton Iron Works	.....	10,025	4,336	.....	.....	.....
2-E..	Ship Construction & Trading Co.	.....	.....	700	.....	30,847	.....
2-F..	Housatonic Shipbuilding Co.	.....	.....	.....	.....	600,000	.....
2-G..	Kingston Shipbuilding Co.	.....	[5] 346	.....	.....	7,000	.....
2-J..	Foundation Co.	.....	.....	.....	.....	1,599,164	.....
2-Q..	Traylor Shipbuilding Corporation	.....	.....	.....	.....	1,630,000	.....

[1] Class A: Urgent deficiency act, Oct. 6, 1917, $35,000,000; sundry civil act, July 1, 1918, $87,000,000; total, $122,000,000; 4 steel fabricating yards, 5 concrete yards, 9 dry docks, 9 marine railways, extraordinary fire protection, barracks and plant protection, small tools, and storage.

[2] Class B: $80,000,000 set aside out of ship construction appropriation of July 1, 1918, in connection with steel-ship program.

[3] Class C: Charged to appropriation for ship construction. Wood yards carried separately by the comptroller's office as a write-off against wood ships.

[4] Class F: Charged to ship construction appropriations. Shipyards, installation plants, and shipfitting plants.

[5] Barracks and fire protection.

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.			Class B, miscellaneous and general, estimated to complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totals for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	DELAWARE RIVER DISTRICT.						
	STEEL-SHIP YARDS.						
10-G.	American Inter. Shipbuilding Corporation	$66,203,942					
10-H.	Merchant Shipbuilding Corporation	15,500,000					
10-K.	Bethlehem (Harlem plant)			$24,432	$141,000		
10-B.	New York Shipbuilding Corporation: Extension to old yard; Plate and angle T & U; South yard			34,970	15,410,150		
10-I.	Sun Shipbuilding Co			38,293			$2,000,000
10-C.	Chester Shipbuilding Co			45,000			1,000,000
10-D.	Pusey & Jones (Gloucester)			26,462			6,718,000
10-J.	Pusey & Jones (Wilmington)			5,450			692,575
	MIDDLE ATLANTIC DISTRICT.						
	STEEL-SHIP YARDS.						
3-B.	Carolina Shipbuilding Corporation	$2,282,800					
3-F.	Bethlehem (Sparrows Point)			$35,500	$3,100,000		
3-K.	Newport News Shipbuilding & Dry Dock Co				800,000		
3-C.	Baltimore Dry Dock & Shipbuilding Co						$1,600,000
3-H.	Virginia Shipbuilding Corporation						1,000,000
	WOOD AND CONCRETE SHIPYARDS.						
3-X.	Liberty Shipbuilding Co	833,355					
3-D.	Henry Smith & Sons Co					$120,000	
3-G.	M. M. Davis & Sons (Inc.)		$28,000				50,000
3-J.	York River Shipbuilding Corporation		38,500	25,500		29,000	
3-E.	Maryland Shipbuilding Co					900,000	
3-I.	Missouri Valley Bridge & Iron Co. and Potomac Shipbuilding Co.					891,900	
3-L.	C. H. Tenney & Co. and Newcomb Life Boat Co		[5] 63,900			207,000	
3-A.	North Carolina Shipbuilding Co.					58,000	

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.			Class B, miscellaneous and general, estimated to complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totas for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	SOUTHERN DISTRICT (EASTERN SECTION).						
	STEEL-SHIP YARDS.						
4-L...	Oscar Daniels Co.	.....	$8,638	.....	$1,071	.....	$400,000
4-F...	Merrill-Stevens Shipbuilding Co.	.....	.....	.....	.....	.....	1,939,000
4-B...	Terry Shipbuilding Corporation.	.....	21,311	$10,560	.....	.....	1,552,000
	WOOD AND CONCRETE SHIPYARDS.						
4-P...	A. Bentley & Sons Co.	$925,000	.....	.....	.....	.....	.....
4-H...	St. Johns River Shipyard Co.	.....	.....	.....	.....	.....	.....
4-I...	J. M. Murdock	.....	.....	.....	.....	$275,000	.....
4-J...	Morey & Thomas	.....	.....	.....	.....	3,571	.....
4-M...	Tampa Dock Co.	.....	14,173	2,186	.....	57,613	80,000
4-N...	Liberty Shipbuilding Co.	.....	.....	3,473	.....	153,334	.....
4-C...	National Shipbuilding & Dry Dock Co.	.....	.....	.....	.....	241,291	.....
4-D...	American Shipbuilding Co.	.....	.....	11,476	.....	100,000	90,000
4-E...	United States Maritime Corporation.	.....	22,030	8,323	.....	12,169	100,000
4-G...	Southland Steamship Co.	.....	16,206	.....	.....	.....	50,000
	SOUTHERN DISTRICT (WESTERN SECTION).						
	STEEL-SHIP YARDS.						
5-E..	Alabama Dry Dock & Shipbuilding Co.	.....	$2,820	.....	.....	.....	.....
5-K..	Johnson Iron Works	.....	.....	.....	$1,753	.....	$148,897
5-B..	Mobile Shipbuilding Co.	.....	1,102	.....	.....	.....	2,593,114
5-J...	Doullut & Williams	.....	.....	.....	.....	.....	600,000
5-A..	Pensacola Shipbuilding Co.	.....	.....	.....	.....	.....	1,226,000
	WOOD AND CONCRETE SHIPYARDS.						
5-M..	Fred T. Ley Co.	$1,466,370	.....	.....	.....	.....	.....
5-G..	Hodge Ship Co. (Inc.)	.....	17,366	.....	.....	.....	50,000
5-H..	Dantzler Dry Dock & Shipbuilding Co.	.....	11,470	.....	.....	.....	.....
5-L..	Merrill-Stevens Shipbuilding Co.	.....	480	$5,634	.....	.....	.....
5-C..	Murnan Shipbuilding Co.	.....	13,100	500	.....	.....	.....
5-D..	Alabama Dry Dock & Shipbuilding Co.	.....	23,430	.....	.....	$112,472	.....
5-F..	Dierks-Blodgett Shipbuilding Co.	.....	26,000	1,055	.....	300,000	75,000
5-I...	Jahncke Shipbuilding Co. (Inc.)	.....	.....	.....	.....	800,000	.....
5-P..	Gulf Coast Transportation Co.	.....	.....	.....	.....	77,000	.....

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.			Class B, miscellaneous and general, estimated to complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totals for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	GULF DISTRICT.						
	WOOD-SHIP YARDS.						
6-D..	McBride & Law		$7,000			$7,000	
6-B..	National Oil Co		2,200				
6-A..	Union Bridge & Construction Co.					360,100	
6-E..	Lone Star Shipbuilding Co.		7,500			10,000	
6-H..	J. N. McCammon		5,700			14,500	$41,000
6-I...	Midland Bridge Co					355,600	
6-F..	Beaumont Shipbuilding & Dry Dock Co		6,500			25,000	
6-J...	Hc'denfels Bros		12,500	$4,300		127,990	120,000
6-G..	Universal Shipbuilding Co		27,000			40,000	85,000
6-C..	Southern Dry Dock & Shipbuilding Co		15,000	10,851		865	90,000
	Contractors' credit for tools due to change of contracts to cost plus					200,000	
	SOUTHERN PACIFIC DISTRICT.						
	STEEL-SHIP YARDS.						
7-B..	Long Beach Shipbuilding Co		$37,000	$1,000			
7-J...	Bethlehem (Union Iron Works)			11,000	$1,500,000		
7-U..	Bethlehem (Liberty Plant)				8,000,000		
7-E..	Los Angeles Shipbuilding & Dry Dock Co		75,000	1,500			$500,000
7-L..	Moore Shipbuilding Co			9,000			
7-I...	Western Pipe & Steel Co		32,500	9,200			500,000
7-D..	Southwestern Shipbuilding Co		20,000	3,500			
7-K..	Hanlon Dry Dock & Shipbuilding Co		27,000	10,000			979,125
7-S...	Union Industrial Works						700,000
7-N..	Pacific Coast Shipbuilding Co			7,000			700,000
	WOOD AND CONCRETE SHIPYARDS.						
7-V..	Scofield Engineering Works	$1,135,000					
7-T..	San Francisco Shipbuilding Co	930,000					
7-P..	Hammond Lumber Co		29,000	2,000			
7-R..	Kruse & Banks Shipbuilding Co			3,000			
7-Q..	Coos Bay Shipbuilding Co		5,000	3,000			
7-F...	R. J. Chandler (Inc.)		6,800				
7-M..	Benecia Shipbuilding Corporation		27,500	2,268			
7-O..	Rolph Shipbuilding Co			2,400			

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.			Class B, miscellaneous and general, estimated complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totals for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	NORTHERN PACIFIC DISTRICT.						
	STEEL-SHIP YARDS.						
8-T..	Ames Shipbuilding & Dry Dock Co			$10,400			
8-B..	Albina Engineering & Machine Works		$6,400		$35,000		
8-R..	Skinner & Eddy Corporation, No. 2				4,000,000		
8-X..	Todd Construction & Dry Dock Corporation			6,616	2,000,000		
8-A..	Columbia River Shipbuilding Corporation				465,219		$285,000
8-S...	Seattle North Pacific Shipbuilding Co			6,557			765,000
8-U..	J. F. Duthie Co			12,000	38,313		300,000
8-D..	G. M. Standifer Construction Corporation			7,400			2,175,750
	WOOD-SHIP YARDS.						
8-L..	Grays Harbor M. S. Corporation		8,000	3,300			
8-M..	Nilson & Kelez Shipbuilding Corporation		5,200	1,800			
8-G..	Seaborn Shipyards Co		5,000	7,300			
8-H..	Barbare Bros		2,000	3,700			
8-O..	Puget Sound B. & D. Co		15,000	7,800			
8-W.	Pacific American Fisheries		13,500	3,100		$750	
	Sloan Shipyards Corporation:						
8-V..	Anacortes, Wash		2,500	1,200			
8-F..	Olympia, Wash		4,000	1,600			
8-P..	Allen Shipbuilding Co			2,454			
8-J...	Tacoma Shipbuilding Co		7,000	2,700			
8-N..	Meacham & Babcock		2,500				
8-E..	Sandersen & Porter					467,000	
8-K..	Grant Smith-Porter Ship Co					127,000	
	GREAT LAKES DISTRICT.						
	STEEL-SHIP YARDS.						
	American Shipbuilding Co., Cleveland, Ohio:						
.....	Superior			$250			
.....	Chicago			180			[1]$4,500,000
.....	Globe Shipbuilding Co		$9,836	100	$7,264		[1] 100,000
.....	Manitowac Shipbuilding Co			203			[1] 264,000
.....	McDougall Duluth Co						[1] 375,000
.....	Saginaw Shipbuilding Co						[1] 250,000 [1] 180,000
.....	Toledo Shipbuilding Co		15,000				[1] 400,000
.....	Whitney Bros		6,000	250			

[1] Contribution for 6 plants.

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.[1]			Class B, miscellaneous and general, estimated to complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totals for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	OREGON DISTRICT.						
.....	Feeny & Bremer	.....	.....	$224	.....	$35,776	.....
.....	Grant Smith-Porter Ship Co	.....	.....	.....	.....	1,200,000	.....
.....	Peninsula Shipbuilding Co	.....	.....	.....	.....	44,322	.....
.....	Coast Shipbuilding Co	.....	.....	.....	.....	.....	$80,000
.....	St. Helena Shipbuilding Co	.....	.....	1,854	.....	.....	.....
.....	Sommarstrom Shipbuilding Co	.....	.....	3,156	.....	.....	.....
	Total for all districts	$107,825,205	$1,146,282	583,259	$37,099,770	11,935,476	49,767,140
	INSTALLATION PLANTS.						
.....	Cumberland Shipbuilding Co	.....	.....	.....	.....	$335,000	.....
.....	Portland Ship Ceiling Co	.....	.....	$3,000	.....	.....	$200,000
.....	California Brick Co	.....	.....	.....	.....	31,016	400,000
.....	Pacific Marine Iron Works	.....	.....	.....	.....	.....	320,000
.....	Astoria Marine Iron Works	.....	.....	3,902	.....	.....	400,000
.....	Todd Shipyards Corporation	.....	.....	.....	.....	.....	490,000
.....	Lord Construction Co	.....	.....	1,878	.....	.....	400,000
.....	Barnes & Tibbitts	.....	.....	5,000	.....	.....	75,000
.....	Williamette Iron & Steel Works	.....	.....	.....	$73,913	.....	120,000
.....	National Engineering Corporation	.....	$1,700	.....	.....	.....	30,000
.....	Main Iron Works	.....	.....	5,400	.....	.....	103,300
.....	C. C. Moore & Co	.....	.....	.....	.....	.....	120,000
.....	Pacific Coast Engineering Co	.....	.....	.....	.....	.....	60,000
.....	Heffernan Engineering Works	.....	.....	.....	.....	.....	80,000
.....	Meacham & Babcock	.....	.....	.....	.....	.....	96,000
.....	Puget Sound B. & D. Co	.....	.....	.....	.....	.....	160,000
.....	Seaborn Shipyards (Inc.)	.....	.....	.....	.....	.....	160,000
.....	Grays Harbor M. S. Corporation	.....	.....	.....	.....	.....	388,500
.....	Newcomb Life Boat Co	.....	.....	.....	.....	.....	300,000
.....	Tampa Dock Co	.....	.....	.....	.....	.....	80,000
.....	American Shipbuilding Co	.....	.....	.....	.....	.....	90,000
.....	Johnson Iron Works (Ltd.)	.....	.....	.....	.....	.....	150,000
.....	Hodge Ship Co. (Inc.)	.....	.....	.....	.....	.....	100,000
.....	Dierks-Blodgett Shipbuilding Co	.....	.....	.....	.....	.....	150,000
.....	Jahnck Shipbuilding Co	.....	.....	.....	.....	.....	165,000
.....	Alabama Dry Dock & Shipbuilding Co	.....	.....	.....	.....	.....	46,000
.....	Lone Star Shipbuilding Co	.....	.....	.....	.....	.....	458,700
.....	Beaumont Shipbuilding & Dry Dock Co	.....	.....	.....	.....	.....	560,000
.....	Hammond Lumber Co	.....	.....	.....	.....	.....	72,000
.....	Coast Shipbuilding Co	.....	.....	.....	.....	.....	80,000
	Total	.....	1,700	19,180	73,913	366,016	5,864,500

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.[1]			Class B, miscellaneous and general, estimated to complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totals for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	STORAGE YARDS AND WAREHOUSES.						
.....	Lumber yard, Portland, Me.	$2,842	.....	.....	.....	.....	.....
.....	Shipley Bros., New York City	38,800	.....	.....	.....	.....	.....
.....	Wilson Point Storage Yard No. 1.	483,900	.....	.....	.....	.....	.....
.....	Monmouth Junction Warehouse.	12,675	.....	.....	.....	.....	.....
.....	Metuchen Warehouse	100,982	.....	.....	.....	.....	.....
.....	Otter Gear Warehouse, District No. 2	8,452	.....	.....	.....	.....	.....
.....	Lumber storage yard, Baltimore, Md.	315,000	.....	.....	.....	.....	.....
.....	Jacksonville Timber Storage Yard	80,455	.....	.....	.....	.....	.....
.....	Lumber storage yard, Brunswick, Ga.	3,383	.....	.....	.....	.....	.....
.....	Moss Point Storage Yard	34,003	.....	.....	.....	.....	.....
.....	Rockport (Tex.) Storage Yard	5,000	.....	.....	.....	.....	.....
.....	Gulfport Export Storage Yard	20,000	.....	.....	.....	.....	.....
.....	Beaumont (Tex.) Storage Yard	94,500	.....	.....	.....	.....	.....
.....	Port Arthur (Tex.)Storage Yard.	1,700	.....	.....	.....	.....	.....
	Total	1,201,692	.....	.....	.....	.....	.....
	BARRACKS INDEPENDENT OF SHIPYARDS.						
.....	Tampa, Fla., barracks	.....	.....	$15,195	.....	.....	.....
.....	Commodore Point, Fla., barracks	.....	.....	12,500	.....	.....	.....
.....	Beaumont barracks	.....	.....	2,500	.....	.....	.....
.....	Orange barracks	.....	.....	12,500	.....	.....	.....
.....	Southern Department, Army barracks	.....	.....	13,438	.....	.....	.....
.....	South Jacksonville barracks	.....	.....	12,394	.....	.....	.....
	Total	.....	.....	68,527	.....	.....	.....
	SHIP FITTING AND MISCELLANEOUS CONTRACTS.						
.....	Baltimore Car & Foundry Co.	.....	.....	.....	$750,000	.....	.....
.....	Bethlehem Alameda Cafeteria Building	.....	.....	.....	50,000	.....	.....
.....	Conneaut Metal Works	.....	.....	.....	11,040	.....	.....
.....	Lake Erie Boiler Works	.....	.....	.....	143	.....	.....
.....	National Malleable Casting Co.	.....	.....	.....	700,000	.....	.....
.....	John Brennan Boiler Works	.....	.....	.....	233,470	.....	.....
.....	American Chain Co.	.....	.....	.....	450,000	.....	.....
.....	Richmond Boiler Plant	.....	.....	.....	2,900,000	.....	.....
.....	McClintic-Marshall Co. (Leetsdale and Pottstown)	.....	.....	.....	5,025,000	.....	.....
.....	Ralston Steel Car Co.	.....	.....	.....	354,000	.....	.....
.....	Pressed Steel Car Co.	.....	.....	.....	267,000	.....	.....
.....	Standard Steel Car Co	.....	.....	.....	900,000	.....	.....
.....	Bethlehem Shipbuilding Corporation (home office)	.....	.....	.....	200,000	.....	.....
.....	Emergency Fleet Copper Works.	.....	.....	.....	.....	$75,000	.....
.....	E. J. Codd	.....	.....	.....	.....	.....	$66,250
.....	Badenhausen Co.	.....	.....	.....	.....	.....	934,300
.....	Sumner Iron Works	.....	.....	.....	.....	.....	24,000
.....	Sizer Forge Co.	.....	.....	.....	.....	.....	923,182
.....	Maine Electric Co.	.....	.....	.....	.....	.....	54,600
.....	Wehn Marine & Equipment Co.	.....	.....	.....	.....	.....	130,000

Emergency Fleet Corporation Investments—Continued.

Yard No.	Name of contractor and location.	Total to complete, arranged by items as classified.					Advance and/or loan.
		Class A.[1]			Class B, miscellaneous and general, estimated to complete.	Class C, wood yards, miscellaneous and general, estimated to complete.	Class F, sum totals for plants, estimated total.
		Miscellaneous and general, estimated to complete.	Fire protection, estimated to complete.	Protective light, fence, and barracks, estimated to complete.			
	SHIP FITTING AND MISCELLANEOUS CONTRACTS—Continued.						
.....	Steward Davit & Equipment Co.	.....	.....	.....	.....	.....	$260,000
.....	O'Neil Iron Works	.....	.....	.....	.....	.....	85,772
.....	American Construction & Engineering Works	.....	.....	.....	.....	.....	269,064
.....	De Pere Manufacturing Co	.....	.....	.....	$16,872	.....	.....
.....	Tindell-Morris Co	.....	.....	.....	.....	.....	300,000
.....	American Clay Machine Co	.....	.....	.....	.....	.....	13,500
.....	Midwest Engine Co	.....	.....	.....	.....	.....	100,000
.....	Hill Pump Co	.....	.....	.....	.....	.....	90,000
.....	W. A. Fletcher Co	.....	.....	.....	.....	.....	533,200
.....	Barber Asphalt Co	.....	.....	.....	200,000	.....	.....
.....	Southern district office, Jacksonville, Fla	$55,808	.....	.....	.....	.....	.....
.....	District 6, office property	.....	.....	.....	.....	$20,000	.....
.....	Transportation of hull equipment, Gulf, Tex	.....	.....	.....	.....	12,000	.....
.....	Uniforms for plant guards	.....	.....	$50,000	.....	.....	.....
	Total	55,808	.....	50,000	12,057,525	107,000	3,783,868
	MARINE RAILWAYS.						
.....	Crowninshield Shipbuilding Co	200,000	.....	.....	.....	.....	.....
.....	Cumberland Shipbuilding Co	100,000	.....	.....	.....	.....	.....
.....	Newcomb Life Boat Co	36,673	.....	.....	.....	.....	.....
.....	Tampa Dock Co	160,000	.....	.....	.....	.....	.....
.....	Federal Marine Ry. Co	175,000	.....	.....	.....	.....	.....
.....	Terry & Brittain, Jacksonville, Fla	175,000	.....	.....	.....	.....	.....
.....	Henderson Shipbuilding Co	160,000	.....	.....	.....	.....	.....
.....	Beaumont Shipbuilding & Dry Dock Co	40,000	.....	.....	.....	.....	.....
.....	Barnes & Tibbitts	110,000	.....	.....	.....	.....	.....
	Total	1,156,673	.....	.....	.....	.....	.....
	DRY DOCKS.						
.....	Alabama Dry Dock & Shipbuilding Co	$1,400,000	.....	.....	.....	.....	.....
.....	Bethlehem Shipbuilding Corporation, Sparrows Point	1,250,000	.....	.....	.....	.....	.....
.....	Beaumont Shipbuilding & Dry Dock Co	600,000	.....	.....	.....	.....	.....
.....	Galveston Dry Dock Co	1,575,000	.....	.....	.....	.....	.....
.....	Jahncke Shipbuilding Co. (Inc.)	1,750,000	.....	.....	.....	.....	.....
.....	Terry & Brittain, Jacksonville, Fla	1,260,000	.....	.....	.....	.....	.....
.....	Terry & Brittain, Savannah, Ga.	827,000	.....	.....	.....	.....	.....
.....	Leary Construction Co. (Norfolk Navy Yard)	1,590,721	.....	.....	.....	.....	.....
	Total	9,589,721	.....	.....	.....	.....	.....

Emergency Fleet Corporation Investments—Continued.

MARINE RAILWAYS AND DRY DOCKS.

Actual commitments.	Class "D" ($34,662,500 deficiency bill, Nov. 4, 1918).
Puget Sound Marine Ry. Co., marine railway	$150,000
Marine Engineering & Drydock Co., marine railway	260,000
Astoria Marine Iron Works, marine railway	175,000
10,000 ton concrete dock	800,000
Ramberg Iron Works, 5,000 dry dock	550,000
Bruce Dry Dock Co., 5,000 dry dock	450,000
Eight 10,000 dry docks without repair plants	6,500,000
Total	8,885,000

Recapitulation, to accompany financial control sheet.

Group name.	Miscellaneous.	Class A.		Class B, miscellaneous.	Class C, miscellaneous.	Class F, estimated additional.
		Fire protection.	Barracks.			
Shipyard plants	$107,825,205	$1,146,282	$583,259	$37,099,770	$11,935,476	$49,767,140
Installation plants		1,700	19,180	73,913	366,016	5,864,500
Storage yards and warehouses	1,201,692					
Barracks independent of shipyards			68,527			
Ship fitting and miscellaneous plants	55,808		50,000	12,057,525	107,000	3,783,868
Marine railways	1,156,673					
Dry docks	9,589,721					
Grand total	119,829,099	1,147,982	720,966	49,231,208	12,408,492	59,415,508

Actual commitments, class D: Marine railways and dry docks, $8,885,000.

INDUSTRIAL RELATIONS DIVISION.

REPORT TO DIRECTOR GENERAL CHARLES PIEZ BY R. W. LEATHERBEE, MANAGER.

EARLY ORGANIZATION.

In submitting this final résumé of the work of the Industrial Relations Division, United States Shipping Board Emergency Fleet Corporation, I have in mind a definite and permanent record, in the briefest form, of the various steps which led up to the organization, together with the experiences and accomplishments that resulted and one or two possible suggestions for the future. It is my hope that this report may prove helpful in matters of industrial relations, and while I have not presumed to advise it may bring suggestions to the mind of the reader which will serve as occasional beacons to a course as yet insufficiently understood and charted.

It has been my aim to prepare this brief in such a manner that it can easily be analyzed by those wishing to make a careful study of our unique experiences with a view to applying them to other lines of industry. I have, therefore, treated the general subject in its natural sequence for convenience, dividing it under three general headings: (1) The formative period; (2) the operative and constructive period, and (3) the peace-time period.

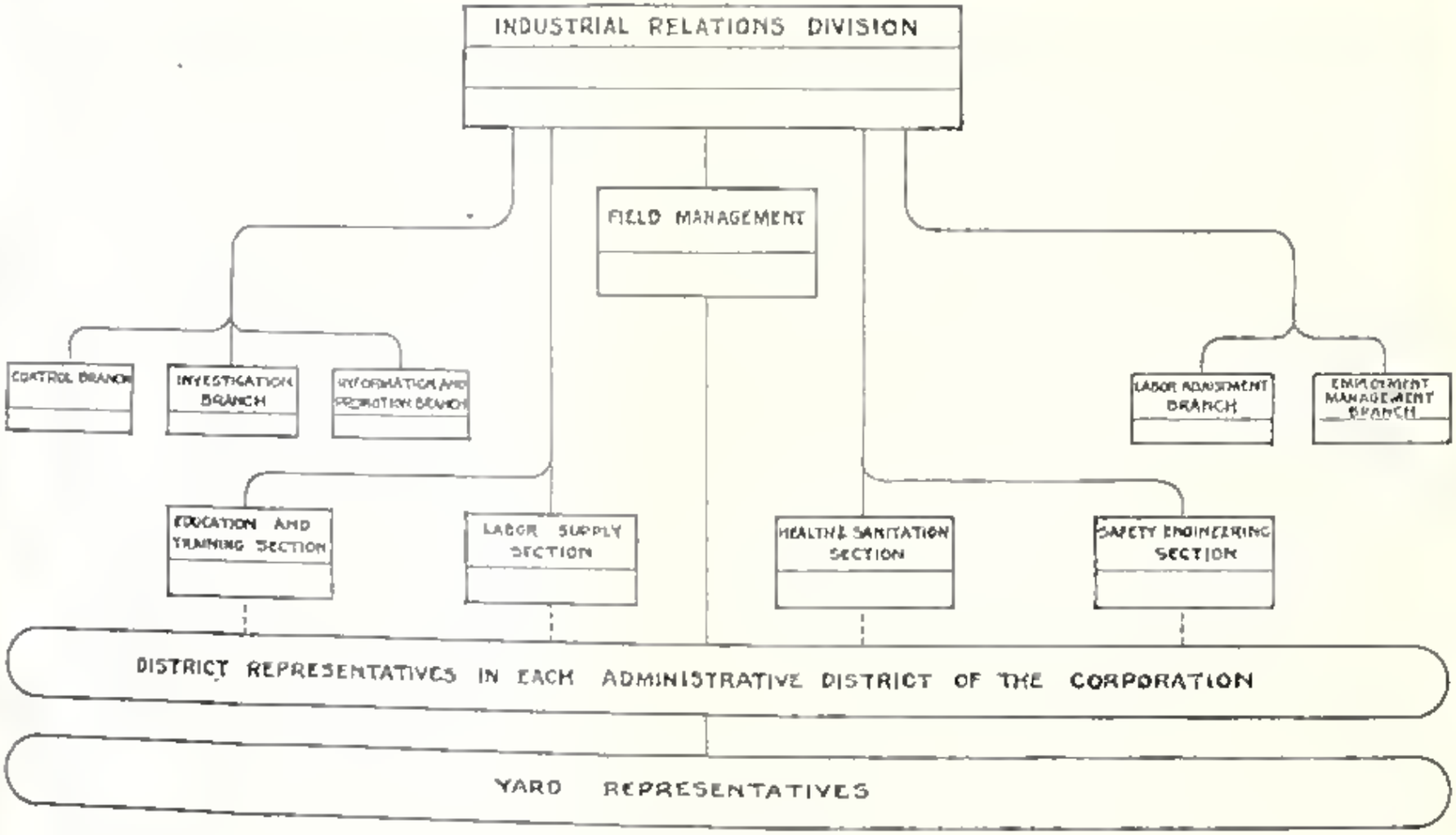
In September, 1917, there was established the industrial service department within the Division of Construction, which was followed in October by the selection of an assistant to the executive, whose duty it was to represent the Fleet Corporation in labor questions before the Shipbuilding Labor Adjustment Board. In December there was created the Division of Labor, which did not succeed, but was designed to cooperate with the industrial service department. This was followed by the creation in rapid succession of a Division of Shipyard Volunteers, a department of health and sanitation within the Division of Shipyard Plants, and a safety engineering section within the insurance department of the Finance Division. These various units were generally unrelated, each functioning independently, each having its own field representatives in the different shipyards and districts throughout the country.

The effect of so anomalous a condition as this became immediately apparent. A Division of Labor was formed to act in labor disputes, which immediately proved to be overlapping with the Shipbuilding Labor Adjustment Board previously organized to deal with questions of wages, hours, and conditions of labor. The industrial service department as part of the Construction Division, the safety engineering section, as part of the Finance Division, and the health and sanitation section, all had functions which were similar and conflicting. It was the work of the Division of Shipyard Volunteers to recruit two or three hundred thousand workmen for shipyard work, but it was wholly without plans for their transportation, placement, or employment.

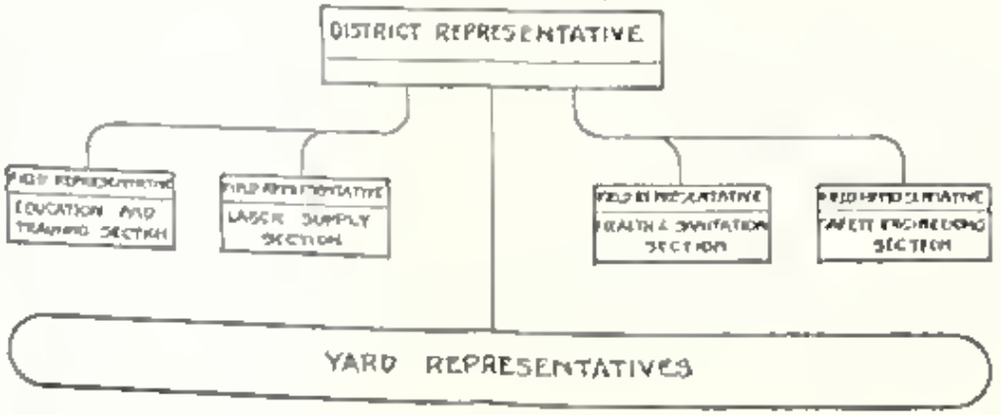
Seriously inefficient though the activities of these disjointed units were, they were deeply overshadowed by the conditions which were of the nature of the problem itself. At the beginning of the war the relations between employers and workmen were in many sections openly hostile, and where not hostile were generally characterized by feelings of suspicion and distrust. Again, there was no nationally defined labor policy, the whole series of circumstances being dominated by the rapidly increasing cost of living. Almost immediately after the inauguration of the shipbuilding program there descended upon a field representation so unorganized and so low in efficiency as virtually to be nonexistent, a veritable avalanche of claims and counterclaims, disputes, charges of unfairness, and an endless number of questions akin to labor, substantially all of which swept back to the home office and upon an unrelated group of units wholly inadequate to handle or dispose of them.

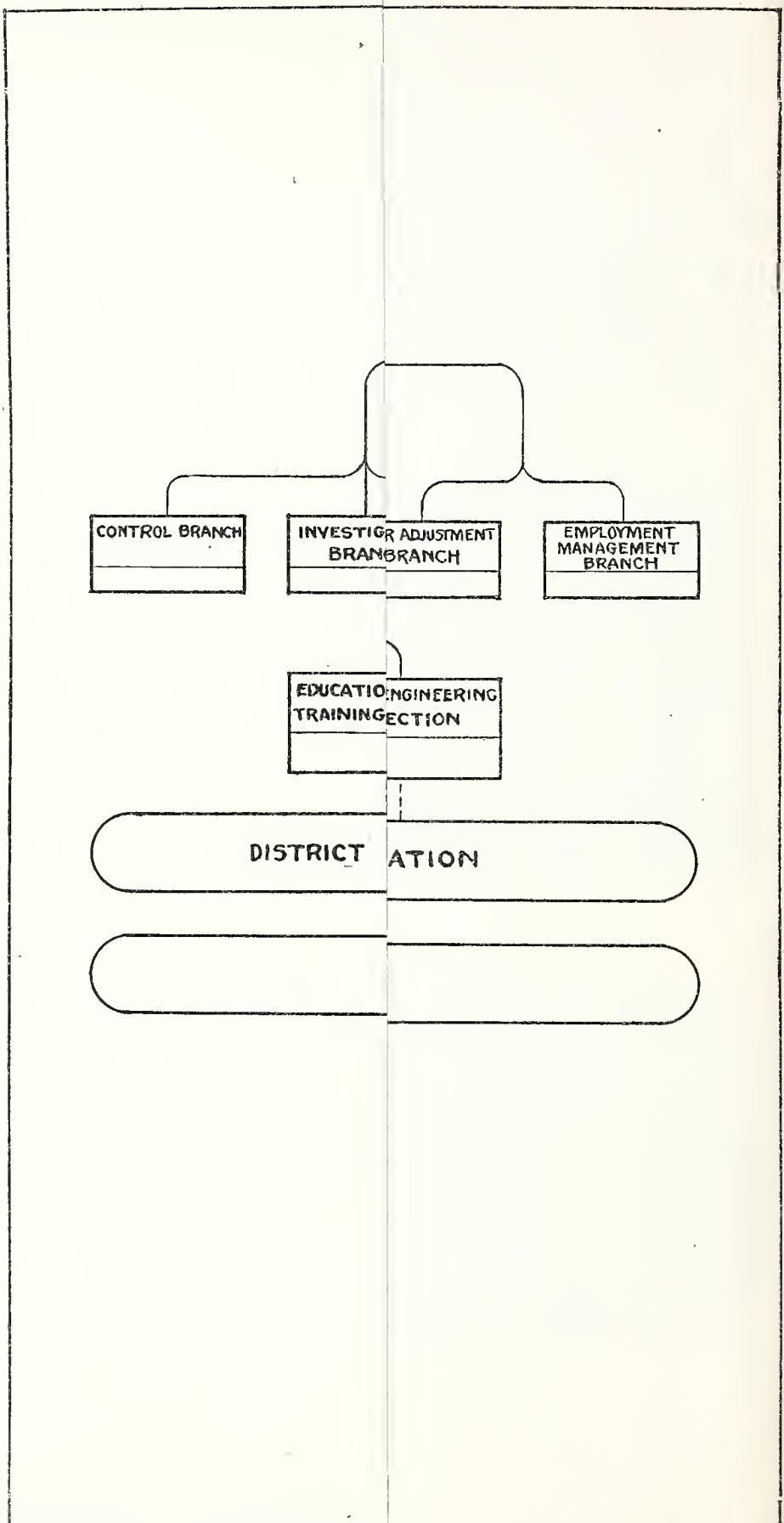
GENERAL SERVICE DIVISION.

The corporation recognizing after five months of chaos the paramount necessity of organization, founded in February, 1918, the General Service Division, embracing all those units before named, excepting only the Division of Labor and the safety engineering section. This, step forward though it was, proved insufficient; the corporation was still handicapped by merging and overlapping authority, irritating delays, and all the other ills of a group of bodies functioning independently. As a result, in May, 1918, the Industrial Relations Division was organized in order to bring about a coordinated and centralized grouping of administrative activities, and a decentralized field representation to act on matters of general or immediate moment.



TYPICAL DISTRICT ORGANIZATION

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ORGANIZATION OF DIVISION.

The organization of the division was set up substantially along the lines of the chart attached hereto as Exhibit "G". General supervision was exercised by the manager through the field manager, and three home office branches: (*a*) The control branch, assuming charge of office administration, personnel, and like subjects; (*b*) the investigation branch, engaged in research and determining methods of best practice; and (*c*) the information and promotion branch, made effective for the distribution and dissemination of information and general data. The various sections and subdivisions determined the policies and procedures which pertained to their individual lines of activity.

EARLY ACTIVITIES.

It is not to be presumed that merely by the establishment of the division and its subsequent functionalized organization order immediately appeared where before only disorder and confusion had prevailed. On the other hand, an enormous amount of work was demanded, supplemented by the most careful judgments, in adopting precedents which should become the basis of policies under which the various units should be directed. The great mass of work which confronted the new division had necessarily to be segregated as to subject or condition and diverted to proper channels, this in itself being the great test as to whether or not each unit could properly function under the policies as laid down.

From the time of the creation of the Industrial Relations Division, however, the affairs of labor as they affected or reacted upon the corporation, showed a marked tendency toward improvement, developing rapidly along the lines of (1) supply, (2) adjustment, and (3) the administration of working conditions of labor. Under centralized control the work originally inaugurated in different divisions of the corporation was continued or extended through the following sections or branches:

LABOR SUPPLY SECTION.

This section was the logical outgrowth of the industrial service department and the Division of Shipyard Volunteers, having principally among its duties those of ascertainment of labor requirements in the individual shipyards, and recruiting labor necessary to meet them—activities which, at the time the armistice was signed, had been brought to a high point of development. Within the scope of the section came the arrangements for deferred draft classification, and furloughs for enlisted men, in order that skilled labor might be retained in ship production. Of this phase of the work 188 shipyards and 553 industrial plants, producing material or equipment required

by shipyards under contract with the Emergency Fleet Corporation, had in October, 1918, availed themselves, and approximately 87,600 workmen were listed under Emergency Fleet classification. The work of placing discharged soldiers in the shipyards was taken up after the date of the armistice, and for this purpose representatives of the section were assigned to the different encampments throughout the country.

STATISTICAL BRANCH.

Closely allied to, and to some extent dependent upon, these greater activities, was the work of the statistical branch, which accumulated and compiled data covering numerous phases of shipyard performance, such as erection in dead-weight tons per man, percentages of absenteeism, labor turnover, and the like. Estimates were also prepared of the number of workmen in shipbuilding trades and crafts and those allied to shipbuilding which would be required for the construction program projected for the year 1919. These estimates were used in the hearings before the Provost Marshal General on the subject of deferred classifications for shipyard employees.

EDUCATION AND TRAINING SECTION.

Organized in May, 1918, this section continued and developed a plan originally laid down in September, 1917. At first it was intended to train as instructors only men skilled in shipyard trades who subsequently with their previously acquired trade knowledge, plus recently acquired teaching knowledge, might in turn train inexperienced men in their respective trades or crafts. Under this scheme 1,098 skilled mechanics were trained as instructors, the shipyards being reimbursed at the rate of $5 per day for the loss of service of the mechanic while under training. In anticipation of the labor shortage, which later became apparent, it was determined to broaden the scope of the original plan and train men hitherto without experience in shipbuilding, thus bringing to bear a direct influence for increased production. Under this revision, between January, 1918, and April, 1919, were trained 80,000 men in 30 different trades. To accomplish this task 37 training centers were established, the first being at the plant of the Newport News Shipbuilding and Drydock Co., 75 yards making use of a service which was given by 70 trained instructors.

EMPLOYMENT MANAGEMENT BRANCH.

In June, 1918, the employment management branch was organized to continue and develop certain of the activities of the earlier industrial service department, and to work in effective cooperation with the War Industries Board. Its principal function was to establish

standard practices in the development, administration, and maintenance of working forces in the shipyards, as well as to give encouragement and assistance in obtaining properly trained and otherwise qualified employment managers. In the history of industry in the United States this was a unique step forward, and one which was productive of results which will endure far beyond the war period. As another phase of this work the branch trained 41 representatives from the shipyards, and 29 reserve men as employment managers, and placed in the yards 17 employment and service managers.

In addition were prepared and distributed some 14 forms, designed to assist the yards in the establishment of systems for the proper selection and placement of workers.

LABOR ADJUSTMENT BRANCH.

In August, 1918, the earlier units having to do with the general problems of labor adjustment, were succeeded by the labor adjustment branch. The awards and decisions of the Shipbuilding Labor Adjustment Board did not extend to the auxiliary industrial plants producing material or equipment for the immediate use of the shipyards under contract with the Emergency Fleet Corporation. As the work of adjusting labor difficulties in such plants was equal in importance with that of the shipyards, and in order to provide suitable machinery for making such adjustments, this branch was organized and functioned chiefly through examiners located in the various supply districts.

HEALTH AND SANITATION SECTION.

This section was originally under the Division of Shipyard Plants, and became one of the industrial relations group in May, 1918, its function being to direct and govern those matters relating to the health of employees and the proper sanitation of shipyards.

In December, 1918, of the 400,000 employees in the 168 shipyards inspected by this section, 96.8 per cent had access to an adequate supply of good water, and 92.5 per cent made use either of bubbler fountains or sanitary drinking cups. In 31 of the yards there were adequate washing facilities, inadequate in 102, and none at all were provided in 35—only 50.9 per cent of the employees having the use of sanitary toilet facilities, adequate or inadequate. On the same basis, adequate sanitary toilet facilities were open to 46.8 per cent of all the employees—64 yards having facilities of sufficient capacity, 71 less than sufficient, and in 33 such facilities were wholly insufficient.

One of the most interesting studies was that on the subject of restaurants, which developed the fact that 86 shipyards had restau-

rants either at or near the yards—47 of which were sanitary in good degree, 24 fair, and 15 poor.

The investigations of the section have also followed into numerous other ramifications, such as fly and mosquito control, health supervision, ventilation, physical examination, and so on.

SAFETY ENGINEERING BRANCH.

In June, 1918, the safety engineering branch, formed originally within the jurisdiction of the insurance department of the Finance Division, was transferred to the Industrial Relations Division.

Its work has been wholly in the direction of better and safer working conditions, and through conservation of man power in accident prevention to increase efficiency and stimulate production. When the work was begun, of all the shipyards in the country, only 8 per cent were organized for safety work as compared with 85 per cent to-day. In comparison with the accident rate of 22 per cent for men employed in shipbuilding before the war, as concluded by the Bureau of Labor Statistics, the current accident rate is 6 per cent.

FIELD ORGANIZATION.

During the summer of 1919 a decentralized field organization was planned and made effective. Under this policy a representative was appointed for each district to have the whole responsibility of acting both for the Industrial Relations Division, and as examiner for the Shipbuilding Labor Adjustment Board. Subject to his authority were the field representatives of the various sections and branches before described.

As a subsequent development, it was determined to appoint (by the district representatives, subject to the approval of the district manager) yard representatives, whose duties should be to handle those problems of labor supply, labor administration, labor classification, and others of like nature. Acting under this policy, in November, 1918, when the armistice was signed, about 60 yard representatives in all had been appointed in the several districts. With the passing of the emergency and the yards were to be thrown back upon a more or less competitive basis, it was apparent that our control of the labor policy would be diminished. Therefore the same need for the yard representative no longer existed, and accordingly they have been steadily decreased in numbers until to-day there are only about 30 in all districts. It is understood they are to be entirely discontinued in the near future, and the district representatives of indistrial relations in the respective districts are to be limited to two assistants. By an organization of this type an enormous number of questions which otherwise would have fallen to the home office were kept back

in the districts and even in the yards, thus saving time and solving many problems at the source.

PUBLICATIONS.

From time to time there were issued by the executive office and the different sections of the Industrial Relations Division reports and studies which were distributed to shipyards and, upon request, to others interested in industrial problems. In reprinting British reports it was the aim of the division to make available the results of British experience in the hope that industrial plants in the United States might thereby be benefited. A list of these publications is attached hereto as Exhibit "H".

EXHIBIT "H."

PUBLICATIONS OF INDUSTRIAL RELATIONS DIVISION.

1. ISSUED BY THE EXECUTIVE OFFICE.

Memorandum on the industrial situation after the war. (Garton Foundation.) Reprint, British. Original edition, 1,000; second edition, 1,000.

Reports on Reconstruction from English Sources. (Whitley Report.) Reprint, British. Original edition, 1,000; second edition mimeographed.

Report of an Inquiry as to Works Committees made by the British Minister of Labor. Reprint, British. Original edition, 1,000.

Works Committees and Joint Industrial Councils, a report by A. B. Wolfe, head of investigation branch. Original edition, 1,000; second edition, 2,000; price, 50 cents per copy.

Report on Reconstruction of Industry, prepared after a series of conferences at Plymouth and Cornwall. Reprint, British. Mimeographed.

Priestman Bros. plan, payment by results. Reprint, British. Mimeographed.

Labor Administration in the Shipbuilding Industry during War Time. By P. H. Douglas and F. E. Wolfe. Reprint from Journal of Political Economy, March, 1919. Original edition, 200.

Suggested Plan for a Conference Committee of Industrial Relationships for the X Manufacturing Co. Mimeographed.

United States Government Agencies for Settling Labor Conditions. Leaflet.

Emergency Fleet News, special edition, December, 1918. In addition there were issued bulletins and circular letters to District and yard representatives, also decisions of the Shipbuilding Labor Adjustment Board in convenient booklet form.

2. ISSUED BY INDUSTRIAL SERVICE DEPARTMENT.

Shipyard Employment. (A place for men to help win the war.) Booklet, 54 pages.

Shipbuilding for Beginners. Booklet, 23 pages.

Restaurant Facilities for Shipyard Workers. Booklet, 67 pages.

3. CLASSIFICATION AND TRANSFER BRANCH OF INDUSTRIAL SERVICE DEPARTMENT (SUCCEEDED BY LABOR SUPPLY SECTION).

Emergency Fleet Corporation Classification List Under the New Selective Service Regulations, November 1, 1919. Booklet, 67 pages.

4. DEPARTMENT OF HEALTH AND SANITATION.

Standard of the Department of Health and Sanitation. By Lieut. Col. Philip S. Doane.

Influenza. Leaflet.

Your Job and Your Future. Leaflet on specific diseases.

The Problem of Physical Efficiency in the Shipyards. Prepared for Emergency Fleet Corporation, by L. Erskine.

5. SAFETY ENGINEERING SECTION.

Safety Specification for Plant. Book, 79 pages.

Construction and Equipment.

Handbook of Industrial Safety Standards.

6. EMPLOYMENT MANAGEMENT BRANCH.

Aids to Employment Managers and Interviewers on Shipyard Occupations with Description of such Occupation. Book, 147 pages. Original edition, 3,000.

Physical Examination in the Employment Department. Leaflet, 7 pages. Original edition, 1,500.

Report of Employment Managers' Conference, November 10, 1919. Booklet, 64 pages.

Handbook on Employment Management in Shipyards. Series.

Bulletin No. 1. Organizing the Employment Department. Booklet, 17 pages.

Bulletin No. 2. Employment Building. Booklet, 29 pages. Original edition, 3,000.

Bulletin No. 3. Selection and Placement of the Worker. Original edition, 2,000.

Special Bulletin, Labor Loss. Original edition, 3,000.

Special Bulletin, Opportunities in Shipbuilding for the Physically Handicapped. Original edition, 2,000.

7. EDUCATION AND TRAINING SECTION.

Circulars Nos. 447 and 448, containing the description of the work which the education and training section was prepared to do for the shipyards and the bonuses which were to be paid to shipyards.

Bulletins Nos. 1, 2, 3, and 4, containing an outline of the course which was given to shipyard mechanics to fit them as instructors in their trades.

Reprints bulletins 1, 2, 3, and 4, teaching forms and question blanks.

Trade analysis sheets, a comparison of the jobs of shipyard mechanics with the jobs of mechanics in allied trades.

Course 1–S, elementary blue-print reading, discontinued because unsuitable for teaching of blue-print reading to shipyard men.

Course 2–S, blue-print reading for steel-ship construction.

Outline of a course on blue-print reading, with 34 shipyard blue prints attached.

Chart No. 1, course 1.

Chart No. 2, course in blue-print reading.

Course 3–S, shipfitting.

Elements of wood-ship construction.

Four hundred shipyard terms and definitions.

8. ELECTRIC WELDING BRANCH.

Notes on Welding System.

Report on Electric Welding and its Applications in United States of America to Ship Construction.

Electric Welding as Applied to Steel-ship Construction.

CONTRACTING ACTIVITIES.

With the signing of the armistice in November, 1918, it immediately became the purpose of the Industrial Relations Division to contract its activities to as great a degree as possible without in any sense lessening its efficiency or relinquishing its contact with any of those problems which during the period of reconstruction could be considered vital.

This was first evidenced by the prompt abandonment of projected plans followed by a rapidly diminishing personnel. This was succeeded by the discontinuance of the three branches of control, investigation and information, and promotion. Under date of February 15, 1919, the health and sanitation section became subject to the direction of the Public Health Service, continuing its work as a part of that body. Although this interim was marked by greatly decreased activities and narrowed functions, there was no radical departmental or organization change until under date of April 1, 1919, when the sections of labor supply and education and training, and the employment management branch were definitely abolished, the proper conclusion of the affairs of these several bodies being left to individuals formerly associated with them.

According to General Order 176, the district representatives will interpret, in conjunction with the district manager, the Shipbuilding Labor Adjustment Board awards which are continued to October 1, 1919.

General Order 182 abolishes the Industrial Relations Division as of May 1, and establishes the position of staff assistant to the director general. The district representatives of the division then report to their respective district managers, who will supervise their work subject to the policies and procedures of the director general.

AGREEMENTS.

Early in January, 1919, a meeting was held in the office of the director general between representatives of the Great Lakes shipbuilders, of the metal trades department of the American Federation of Labor, and of the Industrial Relations Division to discuss how the determinations and interpretations of wages, hours, classifications, and working conditions were to be made after the Shipbuilding Labor Adjustment Board went out of existence on March 31, 1919. As a result of this meeting the director general instructed the manager of the Industrial Relations Division to keep in close touch with the subject and to send copies of the so-called Bethlehem agreement to shipbuilders all over the country and express the hope that some similar plan might be evolved for the benefit of all shipbuilders.

They were also requested to keep the Emergency Fleet Corporation informed of any developments.

Following out the suggestion of the director general, many plans flowed into the Industrial Relations Division. Numerous discussions were held and in order that the shipbuilders and the metal trades department might get the benefit of all these ideas, the Industrial Relations Division correlated and distributed them among those interested, always being careful to pass on the information for what it was worth and without recommendation.

Commencing March 17, 1919, a conference between the Pacific coast shipbuilders, representatives of the Pacific coast unions and the metal trades department, was held at the American Federation of Labor Building in Washington, D. C.

This conference lasted nearly two weeks, and not until after 10 days of destructive debate, which revolved about little matters about which the various people disagreed, was there any sign of progress. Then it was suggested that discussion center upon those matters that appeared to be in common. The result of this policy showed that out of 18 points considered, 13 passed on the first reading.

It was not long before an agreement was reached between the shipbuilders which was submitted to the metal trades department, the only essential point to which objection was taken being that of preferential employment to union men. The builders claimed they could not bring themselves to sign an agreement which might mitigate against returning soldiers, sailors, and citizens. The agreement was then submitted to referendum vote on the west coast, and returns should be known by May 5.

An agreement was signed by the American Shipbuilding Co. of the Great Lakes and the metal trades department early in April along lines similar to that submitted by the Pacific coast builders.

While the Atlantic Coast Shipbuilders' Association has not yet reached its conclusion, it is hoped they will do so soon, particularly as an agreement already exists in the Bethlehem shipyards which is similar in principle to that which the agency yards of the Emergency Fleet will doubtless sign immediately.

PEACE-TIME PERIOD.

The old struggle between the employer and the employee has proved most destructive and wasteful to both. It originated from an endeavor on the part of the employees to give expression to their thoughts and an indifference from the employers to these expressions. This resulted in a mutual problem being attacked individually rather than studied collectively and cooperatively.

Employees and employers have a mutual right to request and to expect better service from each other in the future than they have in

the past. There is, however, an obligation that goes with this expectation. Each is entitled to a better reward for a better service, and vice versa a better reward calls for a better service. It is a mutual proposition, not a one-sided affair. Each should look upon the other in the same manner that an intelligent sales manager looks upon his customers. He must realize that to sell his goods profitably and permanently and to obtain the best price for them he must sell them on merit.

There is urgent need of a melting pot for ideas and experiences in industrial relations. An overwhelming number of minds from all walks of life are energetically thinking about these matters. There is the conservative and the radical theorist, the obsolete and the progressive practical man, the banker, the mechanic, the minister, the doctor, the pedagogue, the laborer, the reporter, the lawyer, Bolshevist, and the influence of our good women that is ever becoming stronger. Each is a worker, and sincere in his belief as he sees the problem from the angle at which he stands. There is a multitude of notes and a chaos of discords, each capable of producing a wonderful symphony if properly blended for the benefit of humanity.

The essence of our Government has been free speech and free thought, a maximum of self-determination and freedom, much of which has been wasted because of poorly directed effort. Would it not be more intelligent if our Government had a vast cauldron into which might flow these intangible influences to be fused by the flames of justice into a fluid of concrete benefit which might be poured into the mold of our own peculiar national life? We have the thoughts; we have the justice; we have the desire to know the truth in regard to our problems in industrial relations; but we sorely need the clearing house in which they may be crystallized into definite shapes; the digestive machinery, so to speak, by which these inspirations may be assimilated for the benefit of the Nation.

Is it not feasible that some composite organization, made up of special representatives from those organizations already in existence which reflect the various points of view, might be created as a branch of the Government to act as a melting pot?

There are many experiments being tried out on industry to-day, some with care, others with the crudeness and haste of the fanatic. Properly planned for and guided, experimentation on a small scale is a sane way of making progress, but if tried without forethought and allowed to run in wholesale riot can be productive only of industrial indigestion. We have been eating heartily and rapidly for the last two years. If we continue this habit much longer, it is almost sure to bring on convulsions. Should we not stop at once in order to assimilate what we have consumed so hurriedly and prepare ourselves

for the vast work which lies before us if we would keep the place among nations which we now enjoy?

Competition is bound to be keen, particularly so with the manufacturers from other countries, and if we are to get the greatest benefit from our national ingenuity and capacity for organization, we should give serious consideration to the best method of disseminating the composite ideas and recommendations which might flow, in a never-ending stream, from our vast melting pot.

One of our chief faults is that we take too much for granted. After we have reached an intelligent conclusion, we are apt to kill it by not providing the proper methods by which to inform those vitally interested. We act as if people were mind readers and then, to rub it in, condemn them for not availing themselves of a progressive step when, as a matter of fact, too often they have not even heard of it.

An increasing desire to do the right thing is becoming more apparent each day from all quarters. The vast majority of the men and women are not only willing but often anxious to assume their fair share of the burden, but must first know what this is before they can adequately shoulder the load. What a crying need there is for a melting pot and what a glorious opportunity to disseminate its truths throughout the Nation by intelligent, educational propaganda.

If the Industrial Relations Division has done just a small bit in helping to make the "world safe for democracy" and has contributed anything toward industrial peace and harmony, it has been due to the never tiring efforts of the members of the division, to whom I owe a debt of gratitude. The privilege of being associated with them, also with the officers and other members of the corporation, has indeed been a rare one, which I shall always cherish.

SUPPLY DIVISION.

REPORT TO DIRECTOR GENERAL CHARLES PIEZ, BY A. E. PFEIFFER, MANAGER, AS OF APRIL 15, 1919.

MATERIAL SECTION.

1. This section is composed of the following branches: Purchase, production, and inspection branch; material control branch; claims branch; transportation branch.

(*a*) The purchase, production, and inspection branch is charged with the responsibility for making all purchases, with the exception of raw materials and lumber and for the production and inspection thereof.

Up to April 15, the total machinery and equipment purchases made by this branch amounted to $300,500,000. Attached hereto, marked "Appendix A," is a statement showing territorially how these purchases were divided.

At the present time, the purchases yet to be made for actual requirements, not affected by cancellation, amount to $3,500,000.

The supervision of production is practically completed and the very small amount remaining is handled in connection with inspection.

Our inspection program is practically 80 per cent completed and our field inspectors are being released as the contracts which they are inspecting are completed. Arrangements have been made for the transfer of the inspection activities now controlled by this branch to the Ship Construction Division, this to become effective on or before June 1.

The personnel of this branch is as follows: Purchasing, 12 employees; production and inspection, exclusive of resident inspectors under jurisdiction of district supply managers, 18 employees.

Until the purchasing is completed, there will be no change in the purchasing personnel. Eighteen employees of the production and inspection unit will be transferred.

(*b*) Material control branch, charged with responsibility for maintaining all records pertaining to the activities of the Supply Division and for the distribution and warehousing of all material.

As the distribution work, which formerly constituted the chief function of this branch, disappears, it is being replaced by the record-

ing and warehousing incident to surplus material, the same records being used.

There is attached hereto, marked "Appendix B," a list of the warehouses at present under the jurisdiction of the Supply Division.

All material shipped to any warehouses or shipped from any warehouse is moved only on authority issued by the home office. Summary records are manitained in the home office of material located in all the warehouses. In the warehouses, detailed stock reeords of all material on hand are maintained. The financial accounting and invoicing for all material handled through the warehouses has heretofore been handled by a resident auditor of the Auditing Division, but effective April 1, storekeepers at the various warehouses will receipt for and invoice their own material. The Accounting Division will maintain financial records only. Storekeepers will be bonded and inventories and audits of their stocks and records will be made as deemed necessary or advisable.

The personnel of this branch, which it will be unnecessary to increase for salvage purposes, consists of 55 employees, a reduction of 595 employees since May 15, 1919.

(*c*) Claims branch, charged with responsibility for collecting all data incident to claims against transportation companies and the prosecution thereof: Arrangements have been made to transfer that portion of the work pertaining to the collection of data to the various district offices, where it can be absorbed without affecting the personnel, and to transfer to the Auditing Division, all work incident to records and prosecution of claims.

The present personnel consists of 10 employees, which will be reduced to 5 at the time of transfer.

(*d*) Transportation branch, charged with responsibility for keeping in touch with general transportation conditions throughout the United States, changes in rules and regulations of the Railroad Administration which might affect the Emergency Fleet Corporation, and for the dissemination of such information to all concerned: This branch is also responsible for checking freight bills covering the shipment of material which is the property of the Fleet Corporation.

As of April 1, the field activities of this branch were transferred to the district managers at New York, Baltimore, Philadelphia, Cleveland, Seattle, and San Francisco. The offices at Boston, Jacksonville, New Orleans, and Portland, Oreg., were eliminated. Offices were retained temporarily at Chicago (5 employees), St. Louis (3 employees), and Pittsburgh (2 employees). The office at Pittsburgh will be closed as of May 15, or before.

That portion of the work of this branch which concerns the checking of freight bills will be transferred to the Auditing Division by May 1.

The personnel of this branch consists of 11 employees, 3 of whom are engaged on freight checking work.

LUMBER SECTION.

2. The activities of the lumber section consisted of purchasing, producing, and inspecting lumber required for construction of wooden ships, plant extensions, housing, etc., and also decking and other lumber required by steel shipyards on the Atlantic and Gulf coasts; also, in assisting the Technical Division in determining the grade of lumber to be used in wood-ship construction in conjunction with the forestry section, United States Department of Agriculture, and the lumber manufacturers.

Development of treenail industry (practically unknown before the war), purchase and production of this product, also knees required for wood-ship construction program.

Administration of requisition or embargo, control over production of long-leaf yellow pin, Douglas fir and locust timber, to insure production of this material required for the construction of wooden ships.

The total purchases made by the lumber section for contracts on the Atlantic and Gulf coasts were as follows;

	Feet.	Cost f. o. b. mills.
Wooden boats	548,658,902	$24,266,377.86
Wooden barges	20,147,026	908,560.40
Wooden tugs	3,286,150	188,578.68
Dry docks	35,402,230	1,345,284.74
Composite boats	8,640,080	432,004.00
Pontoons	640,757	73,313.47
(This does not include material shipped from surplus stock.)		
Plant extension, housing, etc. (estimated)	158,393,352	5,145,755.16
Treenails (18,848,652 pieces)		2,135,370.73
Knees (13,851 pieces)		165,126.08
Total footage lumber, exclusive of piling, treenails, knees, and laths	755,071,497	
Total value, including piling, treenails, knees, and laths (excluding freight)		34,660,391.12

These figures do not include lumber required for wood construction on the West Coast, which this department did not purchase direct, but we exercised more or less supervision over the purchases and production of the same by the fir production board. These purchases exceeded 500,000,000 feet.

At this time the personnel of this section consists of 32 employees.

This section is at present engaged in the work of cancellation of orders and the handling of claims in connection therewith; also the furnishing of material required for dry docks being constructed under the supervision of the Division of Shipyard Plants. Approximately 60 per cent of the material required for dry dock construction is

being taken from surplus lumber not now needed for wood ship construction.

As rapidly as possible that portion of the duties of this section which coincide with the work of the material section, will be transferred to the material section and the work which coincides with that done by the cancellation section will be transferred to that section.

RAW MATERIAL SECTION.

3. The raw material section is responsible for the purchasing of such steel, semifinished and raw materials which the corporation had agreed to supply to shipbuilders. The functions of this section continued thus until December 1, 1918.

Up to the signing of the armistice, the purchases of this section aggregated approximately 2,600,000 tons of steel, representing a money value of about $163,800,000. In addition to the steel so purchased, this section also bought a considerable quantity of miscellaneous raw and semifinished materials, such as pig copper, slab spelter, cement, frogs and switches, spikes, pig tin, brass and copper tubes and plates, railroad rails, bolts, rivets, pig iron, etc., of which no tonnage record was kept.

At the present time, the status of purchases is approximately as follows:

Orders placed	3,500
Steel purchased (up to Nov. 11, 1918)	$163,800,000
Steel purchased (since Nov. 11, 1918)	10,000,000
Miscellaneous material purchased to date	27,000,000
Total	200,800,000

Since the signing of the armistice, comparatively few purchases have been made and cancellation activities have become the main occupation of the section.

There are now about 500 orders under suspense or in the process of cancellation, covering a tonnage of approximately 454,700 tons of steel, representing a money value of approximately $27,700,000.

The personnel of this section at the present time consists of 20 employees. As rapidly as possible the various duties of this organization will be consolidated with the material section, or with the cancellation section.

Attached hereto, marked "Appendix C," is a statement showing the total purchases of the Supply Division, including machinery and equipment, lumber, and raw materials.

CANCELLATION SECTION.

4. This section is charged with responsibility for the general supervision of all cancellation activities of the Supply Division, including the determination of which contracts should be canceled; the supervision of investigations made in manufacturers' plants to determine the progress of the work; review of reports submitted by district supply managers, and finally to summarize and recommend to the assistant to the director general in charge of cancellations the settlement to be made with the contractor.

The total number of cases of machinery, equipment, lumber, and raw material cancellations up to the close of business April 15 was—

	Cases.	Amount involved in cancellation.
Reinstated	110	$15,603,018.53
Settled without cost	124	11,449,946.17
Settled with cost	18	342,594.34
Pending	773	73,087,163.60
Total	1,025	100,482,722.64

The amount involved in cancellation of the 18 cases "with cost" as shown is $342,594.34, whereas these cases were actually settled for $53,279.90. All the above is dealt with more in detail in the accompanying reports marked Appendixes D, E, and F, handed you herewith.

One hundred and thirty-seven Emergency Fleet Corporation units of machinery and equipment are, to date, under suspense, not cancelled.

Eight hundred and twenty-two Emergency Fleet Corporation units of machinery and equipment have been, to date, cancelled, itemized next below. This refers to Emergency Fleet Corporation units and not complete ship units, as you understand we furnish some hulls with more equipment than we do others. Emergency Fleet Corporation units for—

	Units.		Units.
Ballin type	11	Ferris original type	17
Barge type	116	Grays Harbor type	7
Composite complete type	29	Steel complete type	151
Concrete type	29	Tankers	11
C. P. & S. type	13	Steel tugs	47
Daugherty type	22	Wood tugs	48
Ferris amended type	321		

The cancellation procedure is uniform for all districts and substantially is as follows:

Determination of equipment units to be cancelled to meet suspension or cancellation of ships is arrived at by our requirement records,

maintained in the material control branch. This information, together with a summary of the status of existing contracts for material to be suspended is forwarded to the cancellation section, which determines which particular contracts shall be suspended or cancelled, this determination being based upon the condition of the contract and the progress of the work.

If the amount to be suspended exceeds $50,000 in value, our conclusions are referred to the assistant to the director general in charge of cancellations for his approval. If less than $50,000 in value, the approval of the manager of the Supply Division only is required.

A telegram of suspense is sent out in accordance with a form prescribed by the Legal Division to the district supply manager in whose district the manufacturer is located and the district supply manager immediately serves suspense order on the manufacturer.

The desirability of issuing a suspense order having been already taken up in a preliminary manner with the district supply office, it is imperative that the district supply office serve formal suspenses upon manufacturers immediately they are received from the home office, unless unusual circumstances have arisen of which the home office has not been informed.

If the manufacturer questions the authority of this suspense order, the district supply office shall immediately communicate with the head of the cancellation section, who will refer it to the office of the director general for verification of the authority of the suspense order.

After the submission of the manufacturer's statement, the district supply manager checks and verifies the assertions made in this statement.

The district supply manager, if he requires assistance in determining the correctness of a manufacturer's statement, is authorized to request such in writing from the district auditor, giving an outline of the work to be done. If the district auditor is unable to handle this work, he will report this fact to the general auditor, who will arrange to have it done by a certified public accountant.

In cases where, upon the completion of an audit by the district auditor, an insurmountable difference of opinion appears to exist between the manufacturer and the district supply office, the district supply-office manager and the manufacturer shall, by mutual agreement, engage a capable certified public accountant as an arbitrator.

The accounting report should in all cases be submitted to the district supply manager, and subsequently submitted by him to the home office with the manufacturer's statement.

The district supply manager submits to the records branch of the Supply Division, on the 1st and 15th of every month, a report on all

cancellations in his district. These reports are made up on form Status of cancellations. The report, as sent to the records branch, consists of two blue prints of the above-mentioned form.

The district supply manager's signature is a certification of the accuracy of the detail figures only, and is not in itself a recommendation for settlement on that basis. The district supply manager submits his recommendation independently of the manufacturer's statement. It may or may not agree with the statement.

The district supply manager sees that the manufacturer's statement is properly sworn to by the manufacturer and forwarded to the record branch of the Supply Division.

The district supply manager is not authorized to reinstate any contract, regardless of the degree of completion. Every case in which he believes a reinstatement should be made must be referred to the home office for approval.

No investigation shall be made nor shall a manufacturer's statement be made for any contract except those specifically requested by the home office or the Supply Division.

All recommendations are subject to final approval of the cancellations board and the director general.

The reports of the various district supply managers attached hereto, marked "Appendix C," indicate how these instructions are being followed in the field.

The personnel of the cancellation section at the present time consists of 26 employees.

FIELD ORGANIZATION.

5. Appendix G, attached herewith, gives the status of orders and cancellations in each of the district offices.

The question of inspection work will be in such state by June 1 that the Boston and Atlanta offices will be closed, with the exception of possibly one clerk, who will be retained for a short while to clean up the odds and ends of the business in the district. The St. Louis office will be merged with the Chicago office not later than the above date.

The district supply offices at San Francisco, Portland, Oreg., and Seattle, Wash., were transferred as of April 1 to the jurisdiction of the respective district managers. That portion of the activities of these offices which pertains to production, inspection, and cancellation is directed from the home office of the Supply Division.

The cancellation routine as outlined on pages — and — clearly defines the procedure followed by our district offices. This work now constitutes the major portion of the business conducted in these offices. The small amount of production work remaining will be completed by June 1 and the remaining inspection work will be transferred to the Ship Construction Division by the same date.

After June 1 the field organization of the Supply Division will practically consist of four offices—New York, Philadelphia, Youngstown, and Chicago—with a personnel of about 250.

It is estimated that the cancellation work in the various offices will be completed approximately as follows: Philadelphia district, July 1; Youngstown district, July 1; New York district, August 1; Chicago district, September 1.

The following is the personnel of the various district offices as of April 15:

Boston	11	Chicago	58
New York	60	St. Louis	14
Philadelphia	48		
Youngstown	84	Total	284

In addition to the work outlined for various units of organization, there is a clerical section under the direction of an office supervisor which is responsible for the supervision of the clerical service functions, such as stenography, typing, methods, and pay roll.

Attached hereto, marked "Appendix H," is a statement showing the entire personnel of the Supply Division as of April 15.

Appendix A.

Report, by States, of purchases of machinery and equipment (exclusive of raw material and lumber).

	Per cent.	Amount.		Per cent.	Amount.
New England States:			Southern States, western section:		
Maine	0.65	$1,953,185	Texas	0.05	$150,245
New Hampshire	(1)	2,219	Oklahoma	(1)	805
Massachusetts	2.00	6,009,800		.05	151,050
Rhode Island	.34	1,021,666			
Connecticut	.50	1,502,450	Central States:		
	3.49	10,489,320	Wisconsin	4.28	12,860,972
Middle Atlantic States:			Ohio	10.44	31,385,986
New York	30.93	92,904,720	Indiana	.65	1,953,265
New Jersey	6.40	19,231,360	Illinois	2.50	7,502,250
Pennsylvania	21.70	65,206,330	Michigan	.82	2,464,018
Delaware	.05	150,245	Kentucky	.50	1,502,450
Maryland	1.35	4,056,615		19.19	57,668,941
District of Columbia	(1)	22,360			
Virginia	.20	600,980	Central West States:		
West Virginia	.40	1,201,960	Minnesota	3.50	10,517,150
	61.03	183,374,574	Iowa	1.36	4,086,664
			Missouri	.20	600,980
Southern States, eastern section:			Nebraska	(1)	955
North Carolina	.05	150,245		5.06	15,205,749
South Carolina	.10	300,490			
Georgia	.20	600,980	Western States:		
Florida	(1)	10,494	Colorado	.98	2,944,802
Alabama	.20	600,980	Utah	.33	90,147
Tennessee	.20	600,980	California	5.36	16,106,264
			Oregon	2.10	6,310,290
	.75	2,264,169	Washington	1.96	5,889,604
				10.43	31,341,107
			Grand total		300,494,910

[1] This indicates that the business amounted to less than one one-hundredth of 1 per cent of the total.

Appendix B.

Warehouses under jurisdiction of the supply division.

Location.	Character.	Present area.	Rental.	Material stored.
		Square feet.		
Baltimore, Md	Covered	60,000	$30,000	Miscellaneous equipment.
	Yard	300,00	2,400	
Metuchen, N. J	Covered	160,000	36,000	Do.
	Yard	160,000		
New Orleans, La	Covered	55,000	25,000	Do.
Los Angeles	do	28,000	6,000	Heavy equipment.
Chicago, Ill.:				
Thirty-eighth Street	do	30,000	12,000	Do.
Auburn Park	do	309,000	25,000	Miscellaneous equipment.
	Yard	90,000		
Corliss, Wis	Covered	144,000	20,000	Heavy equipment.
	Yard	300,000		
Erie, Pa	Covered	50,000	14,400	Do.
Philadelphia	do	7,500	14,000	Nautical instruments.
Portland, Oreg	do	83,610	(1)	Miscellaneous equipment.
	Yard	263,829		
Wilson Point	Covered	17,600	11,400	Miscellany and lumber.
	Yard	1,548,000		

[1] Owned by corporation.

NOTE.—The above warehouses are used for storage of both active and surplus materials. Changes in conditions have made our figures relative to operating costs of these warehouses of very little value. Steps are being taken to establish a uniform method of ascertaining costs.

PROPOSED WAREHOUSES.

Baltimore, Md.: Present yard of Maryland Shipbuilding Co.

Jacksonville, Fla.: Yard of Murdock Ship building Corporation, or California Brick Co.

New Orleans, La.: Yard of Gulf Coast Shipbuilding Co.

San Francisco, Calif.: To be determined.

Seattle, Wash.: To be determined.

Appendix C.

Summary of total purchases, supply division.

Machinery and equipment	$300, 500, 000. 00
Raw materials	200, 800, 000. 00
Lumber	34, 660, 391. 12
Total	535, 960, 391. 12

Appendix D.

Report of cancellation records branch, supply division, for week Apr. 11 to Apr. 17, inclusive.

Branches.	Number of contracts or per diems involved.	Amount of original contracts or per diems.	Amount in cancellation.	Amount settled to date.
Raw material	9	$663,250.00	$271,515.00	.....
Mechanical	9	307,506.11	3,379,326.86	$2,219.78
Electrical equipment, turbines, nautical instruments	9	960,169.00	3,439,922.00	.....
Deck equipment, outfitting, miscellaneous.	12	347,484.28	48,540.02	.....
	39	2,278,409.39	7,139,303.88	2.219.78
Previously reported	988	222,674,379.33	94,180,042.48	51,060.12
	1,027	224,952,788.72	101,319,346,36	53,279.90
Additions due to revisions	.....	.....	5,183.10	.....
	1,027	224,952,788.72	101,324,529.46	53,279.90
Deductions due to revisions and reinstatements	2	213,700.80	841.806.82	.....
Net grand total	1,025	224,739,087.92	100,482,722.64	53,279.90

Appendix E.

Semimonthly report of cancellations, Supply Division.

Number of cases with assistant in charge of cancellations for approval of suspense and reinstatements, over 7 days ..... [1] 6

NUMBER OF MANUFACTURER'S STATEMENTS ORDERED MADE AND WITH DISTRICT SUPPLY OFFICE.

District.	1 month or less.	Between 1 month and 6 weeks.	Between 6 weeks and 2 months.	Over 2 months.	District.	1 month or less.	Between 1 month and 6 weeks.	Between 6 weeks and 2 months.	Over 2 months.
A	.....	.....	.....	4	H	2	2	1	11
B	14	5	8	33	K	3	2	.....	5
C	10	8	5	30	L	4	.....	.....	4
D	13	8	3	32					
F	1	.....	.....	1	Total	65	34	19	[1] 160
G	18	9	2	40					

Number of recommendations with assistant in charge of cancellations, 7 days or less 6
Number of recommendations with assistant in charge of cancellations, over 7 days ..... [1] 13
Number of recommendations approved and awaiting memorandum of change, under 2 weeks 13
Number of recommendations approved and awaiting memorandum of change, over 2 weeks ..... [1] 30
Number of partial reinstatements 25
Total number of cases open (exclusive of lumber and raw material cases) 371
Total number of cases closed (exclusive of lumber and raw material cases) 63
Number of complete reinstatements 73

RAW MATERIALS CASES.

Number of cases with assistant in charge of cancellations for approval of suspense or reinstatement over 7 days 5
Number of cases in field:
1 month or less 99
1 month to 6 weeks 76
6 weeks to 2 months 88
Over 2 months 160
Number of recommendations approved and case awaiting acknowledgment of memorandum of change, under 2 weeks 13
Number of recommendations approved and case awaiting acknowledgment of memorandum of change, over 2 weeks 13
Number of cases open 454
Number of cases closed 16
Number of reinstatements (complete) 35

[1] Itemize of separate sheets.

LUMBER.

Number of cases awaiting approval of recommendation, over 7 days	1
Number of cases awaiting acknowledgment of memorandum of change, over 2 weeks	3
Total number of cases open	4
Total number of cases closed	50

TOTALS.

Total of cases open (mechanical, electrical, and outfitting equipment)	371
Total of cases closed (mechanical, electrical, and outfitting equipment)	63
Total of cases open (raw material)	454
Total of cases closed (raw material)	16
Total of cases open (lumber)	4
Total of cases closed (lumber)	50
Grand total of open cases	829
Grand total of closed cases	129
Grand total of complete reinstatements	108

CASES WITH ASSISTANT IN CHARGE OF CANCELLATIONS FOR APPROVAL OF SUSPENSE OVER SEVEN DAYS.

Case No.	Per diem or contract No.	District.	Contractor.	Item.
7-151	1152	D	Erie Forge Co	Forgings.
7-1034	3313	K	Dow Pump & Deisel Engine Co	Pumps.
7-1010	4006	G	Minneapolis Steel & Machine Co	Winches.
7-1086	5308	L	Embergs Electric Machine Works	Generators.
7-1001	4992	B	Kerr Turbine Co	3,000 horsepower turbine.
7-333	5056	B	General Electric Co	6,000 horsepower turbine.

CASES IN FIELD OVER TWO MONTHS.

7-159	5025	A	George B. Carpenter & Co	Steel blocks.
7-27	1089	B	David K. Kahnweiler	Boats.
7-28	4944	G	Saginaw Derrick Co	Booms.
7-64	4132	B	Treadwell Engine Co	Do.
7-160	3228	C	Marine Decking & Supply Co	Fittings.
7-42	4150	B	E. W. Iles & Co	Sockets.
7-602	4716	C	American Conduit Co	Conduits.
7-296	4808	D	Griscom, Russell Co	Coolers.
7-297	4688	D	do	Do.
7-37	4939	D	do	Do.
7-10	4518	B	Worthington Pump Co	Oil pump.
7-507	1220	B	J. P. Powers Manufacturing Co	Sleeves.
7-636	5445	C	Schutte & Koerting Co	Strainers.
7-637	5444	C	do	Do.
7-603	134	B	McNab Co	Telegraph.
7-428	2456	B	Rome Brass & Copper Co	Brazed tubing.
7-90	5013-1779	B	De Leval Steam Turbine Co	1,600 horsepower turbines.
7-164	5088-5089-1497	D	Westinghouse Electric & Manufacturing Co.	1,500 horsepower turbines.
7-139	5010-1779	B	De Leval Steam Turbine Co	2,500 horsepower turbines.
7-143	4994	B	General Electric Co	Do.
7-3	4990	G	Midwest Engine Co	2,800 horsepower turbines.
7-86	4997	B	W. & A. Fletcher Co	Do.
7-89	4996	B	Vulcan Iron Works	Do.
7-145	5052	B	General Electric Co	Do.
7-142	4900	B	do	Do.
7-144	5046	B	do	Do.
7-163	1479-5090-5091	D	Westinghouse Electric & Manufacturing Co.	Do.
7-165	4995	D	do	Do.
7-31	5056-5059	B	General Electric Co	6,000 horsepower turbines.
7-639	4181	B	do	Do.
7-640	5206	B	do	Do.
7-162	5097	D	Westinghouse Electric & Manufacturing Co.	12,000 horsepower turbines.
7-604	1455	B	Thomas J. Betts & Co	Union, conduit.
7-87	4725	C	Schutte & Koerting Co	Valves.
7-88	4146	D	Westinghouse Electric & Manufacturing Co.	Do.
7-433	4330	G	Northwest Steel & Iron Co	Steady bearings.
7-5	4346	C	Downingtown Iron Works	Foster boilers.
7-6	4348	D	McNaul Boiler Manufacturing Co	Do.
7-8	4347	G	William Bros. Boiler Manufacturing Co.	Do.
7-9	4359	K	Llewellyn Iron Works	Do.
7-157	4345	G	Murray Iron Works	Do.

CASES IN FIELD OVER TWO MONTHS—Continued.

Case No.	Per diem or contract No.	District.	Contractor.	Item.
7-273	4347	G	Williams Bros. Boiler Manufacturing Co.	Foster boiler.
7-274	4346	C	Downingtown Iron Works	Do.
7-415	4209	C	Heine Safety Boiler Co	Heine boilers.
7-416	4054	C	do	Do.
7-408	4024	B	P. Delaney & Co	Scotch boilers.
7-406	4022	C	Badenhausen Co	Do.
7-407	4021	A	Dominion Bridge Co	Do.
7-412	4025	D	Vulcan Iron Works	Do.
7-414	4023	B	W. & A. Fletcher Co	Do.
7-417	4020	G	Johnston Bros	Standard water-tube boilers.
7-578	4464	D	National Shipbuilding Co	Scotch boilers.
7-66	3819	G	Freeman Sons Manufacturing Co	Standard water-tube boilers.
7-67	3818	H	Henry Vogt Machine Co	Do.
7-68	3817	G	Advance Reumelh Co	Do.
7-69	3822	C	Downingtown Iron Works	Do.
7-71	3820	H	Casey Hedges Co	Do.
7-117	3821	G	Williams Bros. Boiler Manufacturing Co.	Do.
7-413	3823	L	Pacific Steel & Boiler Works	Do.
7-26	4434	D	American Flexible Bolt Co	Bolts.
7-104	4703	D	Charles Taylor Sons	Fire brick.
7-154	4704	H	Laclede Christy Products Co	Do.
7-480	4923	D	Charles Taylor Sons	Do.
7-22	4758	D	Whitting Mould & Foundry Co	Castings.
7-334	1131	B	American Condenser & Engineering Co.	Condensers.
7-631	1206	C	Wheeling Condenser & Engineering Co.	Do.
7-275	5029	D	Griscom Russell Co	Distillers.
7-29	1216	K	Skandia Pacific Engine Co	Deisel engines.
7-30	1190	B	McIntosh Seymour Corporation	Do.
7-346	4720	H	Smith & Son Manufacturing Co	450-horsepower engine.
7-37	3891	G	Chuse Engine & Manufacturing Co	700-horsepower engine.
7-38	1154	H	General Ordnance Co	Do.
7-338	3881	D	Hooven Owens Reutscher Co	850-horsepower engine.
7-340	3848	L	Hendrick Manufacturing Co	1,400-horsepower engine.
7-342	3846	C	Traylor Engine & Manufacturing Co	Do.
7-347	3060	B	Worthington Pump & Machine Co	Do.
7-349	3864	K	Llewellyn Iron Works	Do.
7-341	3796	C	Elliott Machine Co	1,600-horsepower engine.
7-32	1127	D	O'Neil Iron Works	2,800-horsepower eugines.
7-33	3832	D	Canadian Allis-Chalmers Co	Do.
7-36	3865	G	Hooven Owens Rentschler Co	Do.
7-101	3318	D	Griscom Russell Co	Evaporators.
7-187	3717	G	Crane Co	Pipe fittings.
7-188	1266	G	do	Do.
7-189	3923	G	do	Do.
7-190	3668	G	do	Do.
7 191	1795	G	do	Do.
7-192	3826	G	do	Do.
7-231	3811	G	do	Do.
7-238	1887	G	do	Do.
7-220	3684	G	do	Flanges.
7-24	1129	C	Camden Forge Co	Do.
7-149	4535	D	Sizer Forge Co	Do.
7-153	1157	C	Tindel Morris Co	Do.
7-350	1099	D	Sizer Forge Co	Do.
7-591	5699	D	do	Forgings.
7-592	4471	D	do	Do.
7-594	4535	D	do	Do.
7-595	4797	D	do	Do.
7-596	5552	C	Bethlehem Steel Co	Do.
7-598	4682	D	Sizer Forge Co	Do.
7-630	1273	C	Camden Forge Co	Do.
7-631	1185	C	Bethlehem Steel Co	Do.
7-295	3318	D	Griscom Russell Co	Feed water heaters.
7-12	4913	B	Lord & Burnham	Ladders and gratings.
7-76	1176	C	American Engineering Co	Towing machines.
7-75	4423	H	Key Boiler Equipment Co	Handhole caps and screws.
7-106	3612	D	Gustave Wideke	Tube expanders.
7-123	4585	C	Bethlehem Steel Co	Steel wedges.
7-234	5486	G	Crane Co	Special castings.
7-241	3133	G	Indiana Brass Co	Deck plates and wrenches.
7-247	5615	D	Greg. G. Wright & Co	Label plates.
7-267	1263	G	Indiana Brass Co	Hose connections.
7-351	1420	C	Marine Decking & Sunply Co	Smokestacks.
7-428	3591	G	American Steel Foundry Co	Boiler foundation.
7-438	4513	F	Harding Tynes Manufacturing Co	Machining of shafting.
7-439	5148	G	Dominion Steel Products Co	Do.
7-440	4512	K	Main Iron Works	Do.
7-445	4123	G	Sykes Co	Ventilators and cowls.
7-475	5182	K	Celite Products Co	Boiler inslating material.
7-476	3086	D	Liberty Manufacturing Co	Turbine tube cleaners.
7-477	5183	D	do	Do.
7-478	5407	C	Coen Co	Fuel oil burners.

CASES IN FIELD OVER TWO MONTHS—Continued.

Case No.	Per diem or contract No.	District.	Contractor.	Item.
7-534	1192	C	United Lead Co	Bearing metal.
7-537	4585	C	Bethlehem Steel Co	Steel wedges.
7-17	4160	H	C. Lee Cook Packing Co	Packing and wearing rings.
7-585	5261	H	do	Packing.
7-434	1118	H	International Marine Iron Works	Propellers.
7-435	4098	B	George B. Thatcher Co	Do.
7-632	1120	D	Epping Carpenter Pump Co	Pumps.
7-289	3937	B	Ames Iron Works	Do.
7-635	4686	B	Kingsford Foundry Machine Co	Do.
7-290	4197	C	Scranton Pump Co	Do.
7-283	4196	C	do	Do.
7-175	4183	D	Pittsburg Meter Works	Sea chests.
7-352	4155	A	Hyde Windlass Co	Steerers.
7-355	3897	C	American Engineering Co	Steering engines.
7-292	4751	G	Wayne Oil Tank & Pump Co	Tanks.
7-285	4701	G	Muskegon Boiler Co	Do.
7-293	4906	G	William Bros. Boiler Manufacturing Co	Do.
7-21	5130	D	H. G. Trout Co	Stern tubes.
7-255	4284	B	Chase Metal Works	Copper tubing
7-327	4499	B	do	Do.
7-226	1855	G	Crane Co	Valves.
7-227	1886	G	do	Do.
7-235	1332	C	Atlas Valve Co	Do.
7-236	3896	G	Crane Co	Do.
7-237	1122	G	do	Do.
7-249	4810	G	do	Do.
7-272	354	G	do	Do.
7-538	4070	H	General Ordnance Co	Winches.
7-599	4059	L	Helser Machine Works	Do.
7-600	4060	L	do	Do.
7-629	4070	H	General Ordnance Co	Do.
7-57	1178	G	Emerson Brantingham Co	Do.
7-141	4683	A	Hyde Windlass Co	Windlasses.
7-357	4241	G	American Hoist & Derrick Co	Do.
7-447	4241	G	do	Do.
7-589	1090	D	American Clay Machinery Co	Do.
7-590	4241	G	American Hoist & Derrick Co	Do.

RECOMMENDATIONS WITH ASSISTANT IN CHARGE OF CANCELLATIONS, OVER 7 DAYS.

7-140	1244	C	Southern Rome Co	Metal berths.
7-469	3625	C	do	Do.
7-41	5260	C	Marine Decking & Supply Co	Castings.
7-483	5006	H	St. Louis Brass Manufacturing Co	Blinkers.
7-25	5007	B	Crouse Hinds Co	Searchlights.
7-65	206	D	Connecaut Metal Works	Lanterns.
7-358	4777	A	Hyde Windlass Co	Capstans.
7-339	3888	G	Filer & Stowell Co	850 horsepower engines.
7-348	3847	G	Nordburg Manufacturing Co	1,400 horsepower engines.
7-62	4639	A	Jerguson Gauge & Valve Co	Gauges.
7-533	5329	G	Crane Co	Special shafting.
7-278	4718	L	Helser Machine Works	Hawser reels.
7-431	4001	B	American Lead Co	Lead sheets.
7-282	4907	K	Union Iron Works	Tanks.
7-308	3262	D	Ohio Blower Co	Steam traps.
7-437	1138	F	Hardy Tire Manufacturing Co	Stern tubes.
7-312	1234	H	Matt Corcoran Co	Copper tubing.
7-432	5073	C	Keystone Driller Co	Propeller nut wrenches.
7-748	5084	C	Chester Steel Casting Co	Stern-tube nut wrenches.

RECOMMENDATION APPROVED AND AWAITING ACTS. MEMORANDUM OF CHANGE OVER 2 WEEKS.

Case No.'	Per diem or contract No.	District.	Contractor.	Item.
7-577.....	5715	G	William Bros. Boiler Manufacturing Co.	Foster boilers.
7-15.....	4019	H	Reummeli Dawley Manufacturing Co...	Scotch boilers.
7-256.....	3227	D	Upson Nut Co.....	Bolts, nuts, locks, screws.
7-257.....	3226	D	.....do.....	Do.
7-253.....	1208	A	Walworth Manufacturing Co.....	Pipe fittings.
7-19.....	1135	F	Cruse Crawford Manufacturing Co.....	Forgings.
7-53.....	4750	B	A. L. Swett Iron Works.....	Jack screws.
7-259.....	3856	H	Pawley Jail Building Co.....	Bilge strainers.
7-242.....	5630	G	Flour City Ornamental Iron Works.....	Steel collars and split pins.
7-270.....	1655	B	J. P. Nawrath Co.....	Jute twine.
7-580.....	5180	D	Sidney Steel Scraper Co.....	Wheelbarrows.
7-581.....	5244	C	Simon Hardware Co.....	Coal scoops.
7-587.....	4451	B	American Condenser & Engineering Co..	Spare parts for condensers.
7-869.....	4750	B	A. L. Swett Iron Works.....	Jack screws.
7-972.....	1282	D	Greg. G. Wright & Son.....	Label plates.
7-261b ...	1562	G	W. D. Allen Manufacturing Co.....	Hose nozzles.
7-244.....	471	B	American Brass Co.....	Brass pipe.
7-262.....	1834	B	R. B. Wing & Son.....	Pipe covering.
7-990.....	3622	D	Armstrong Cork & Insulator Co.....	Do.
7-751.....	974	D	Republic Iron & Steel Co.....	Steel pipe.
7-982.....	5162	D	National Tube Co.....	Do.
7-288.....	5258	D	John H. McGowan.....	Pumps.
7-284.....	3314	B	Worthington Pump & Machinery Co....	Do.
7-984.....	5023	A	H. B. Smith Co.....	Radiator.
7-193.....	3262	D	Ohio Blower Co.....	Steam traps.
7-204.....	3968	D	National Tube Co.....	Steel tubing.
7-310.....	3968	D	.....do.....	Do.
7-258.....	4739	C	McShane Bell Foundry Co.....	Valves.
7-981.....	4966	C	Crane Co.....	Do.
7-50.....	4572	G	A. J. O'Leary Sons Co.....	Steel washers.

List of canceled per diems or contracts upon which agreements with contractors have been approved by the Assistant to the Director General in Charge of Cancellations and passed to final stage of consummation.

Case.	Per diem or contract.	Left Division of Cancellation, Adjustment and Salvage.	Contractor.	Item.	Quantity.	Amount of original order.	Amount in cancellation.	Amount of settlement
7-360	2068	Jan. 27, 1919	Alabama Florida Lumber Co.	Yellow pine lumber	663,681 feet	$30,985.91	$29,366.60	(1)
7-58	775	Jan. 22, 1919	Alan Wood Iron & Steel Co.	Steel floor plates	65 ship sets	219,313.22	30,313.22	(1)
7-536	775	Feb. 21, 1919	do	do	2,188 checker plates 19 sets plain plates		8,568.95	(1)
7-359	2004	Jan. 27, 1919	Alexander Lumber Co.	Yellow pine lumber	538,602 feet	30,985.91	24,532.71	(1)
7-244	471	Feb. 5, 1919	American Brass Co.	Brass pipe	33 ship units	36,000.00	3,450.00	(1)
7-367	2037	Jan. 27, 1919	American Lumber Co.	Yellow pine lumber	4,227,204 feet	247,887.28	187,715.46	(1)
7-118	10964	Feb. 7, 1919	American Sheet & Tin Plate Co.	Blue annealed sheets	34	760.00	[2] 760.00	(1)
7-99	RM 10851-R	Mar. 10, 1919	do	Galvanized sheets	1 ton	125.00	125.00	(1)
7-265	3622	Mar. 11, 1919	Armstrong Cork & Insulation Co.	Asbestos pipe covering	33 ship units	133,867.44	26,295.39	(1)
7-300	RM 10834-R	Mar. 10, 1919	Atlantic Steel Co.	Round bars	3,220 tons	186,760.00	186,760.00	(1)
7-261	1562		Allen, W. D., Manufacturing Co.	Hose nozzles	37 ship units	4,166.40	310.80	$293.95
7-59	4781	Dec. 24, 1918	Baldwin & Leslie	Cotton duck		122,350.00	87,113.00	8,711.30
7-419	1456	Jan. 27, 1919	Berkwitt, J. C. & Co.	Whistle pull equipment	56 ship units [1]	3,090.00	576.80	
7-362	2085	do	Bertha Mineral Co.	Yellow-pine lumber	704,534 feet	30,985.91	30,985.91	(3)
7-43	4784	Dec. 20, 1918	Boston Lockport Co.	Wood and steel blocks	1,300	7,340.00	6,220.00	1,120.00
7-382	2013	Jan. 27, 1919	Bowman Hicks Lumber Co.	Yellow-pine lumber	704,534 feet	61,971.82	30,985.91	(3)
7-368	2055	do	Brookhaven Lumber & Manufacturing Co.	do	651,383 feet	30,985.91	29,045.07	(3)
7-392	2108	do	Brooks Scanlon Co.	do	660,533 feet	30,985.91	29,405.54	(3)
7-379	2008	do	Cady, W. M. Lumber Co.	do	282,181 feet	30,985.91	13,736.72	(3)
7-363	2176	do	do	do	67,020 feet	2,062.50	1,683.24	(3)
7-214	RM 10787-RA	Jan. 31, 1919	Carnegie Steel Co.	Steel plates, shapes		3,800.00		(3)
7-365	2058	Jan. 27, 1919	Carter Kelly Lumber Co.	Yellow-pine lumber	73,872 feet	6,214.80	4,109.92	(3)
7-648	C-113	Feb. 18, 1919	Columbia Spar Co.	Masts	50	1,764.30	1,764.30	(3)
7-232	7629-L	Jan. 27, 1919	Columbia Steel & Shafting Co.	Steel shafting	1 set	1,046.54	209.30	(3)
7-16	3675	Jan. 24, 1919	Commonwealth of Massachusetts	Kapok	25,000 pounds	5,875.00	5,875.00	(3)
7-65	206	Jan. 9, 1919	Conneaut Metal Works	Battle lanterns	181	2,125.00	769.25	(3)
7-74	1234	Jan. 4, 1919	Corcoran, Matt & Co.	Brazing of copper tubes	65 ship units	66,199.40	8,516.00	(3)
7-63	1863	Dec. 24, 1918	Crane Co.	Flanged and screwed fit	12 sets	33,457.20	11,471.04	3,636.16
7-194	3384-L	Jan. 16, 1919	Crosby Steam Gauge & Valve Co.	Steam whistles	73	15,614.00	5,402.00	(1)
7-313	3384	Feb. 11, 1919	do	do	22		1,628.00	(1)
7-583	5033	Feb. 21, 1919	do	do	4 steam whistles	296.00	296.00	(1)
7-364	2197	Jan. 27, 1919	Crowell Spencer Lumber Co.	Yellow-pine lumber	609,192 feet	28,022.83	28,022.83	(1)
7-378	2007	do	do	do	255,844 feet	30,985.91	17,248.16	(1)

[1] Without cost. [2] Reinstated. [3] 55 ship units for salvage.

List of canceled per diems or contracts upon which agreements with contractors have been approved by the Assistant to the Director General in Charge of Cancellations and passed to final stage of consummation—Continued.

Case.	Per diem or contract.	Left Division of Cancellation, Adjustment and Salvage.	Coutractor.	Item.	Quantity.	Amount of original order.	Amount in cancellation.	Amount of settlement.
7-19	1135	Dec. 3, 1918	Cruse-Crawford Manufacturing Co	Forgings	2,000 tons	$518,442.00	$280,750.00	(1)
7-96	RM 10856-R	Mar. 10, 1919	Carnegie Steel Co	Plates, shapes and bars	9,914 tons	624,582.00	624,582.00	(1)
7-97	RM 10854-R	do	do	do	1,190 tons	74,970.00	74,970.00	(1)
7-98	RM 10853-R	do	do	do	1,581 tons	99,603.00	99,603.00	(1)
7-100	RM 10855-R	do	do	Steel shapes and bars	7,450 tons	439,550.00	439,550.00	(1)
7-317	RM 10906-RA	Mar. 22, 1919	Champion Rivet Co	Boiler rivets	1½ tons	150.00	150.00	(1)
7-263	1966	Feb. 17, 1919	Detroit Copper & Brass Mills	Copper sheets for tubes	4 slip units	2,300.00	400.00	(1)
7-14	4762	Feb. 5, 1919	Duluth Boiler Works	Scotch boilers	12	180,000.00	180,000.00	(1)
7-394	2102	Jan. 27, 1919	Eastman-Gardiner Lumber Co	Yellow pine lumber	560,485 feet	30,985.91	24,744.25	(1)
7-375	2003	do	do	do	511,766 feet	30,985.91	22,872.52	(1)
7-333	4709	Jan. 21, 1919	Eastman-Gardiner Hardwood Co	Oak barge timber		7,937.31	6,949.75	(1)
7-250	3940	Jan. 23, 1919	Empire Tire & Rubber Co	¾-inch hose	58 ship units	643.50	120.25	(1)
7-23	4757	Dec. 23, 1918	Erie Forge Co	Forged steel stocks	25	80,078.00	52,682.75	(1)
7-332	3940	Mar. 11, 1919	Empire Tire & Rubber Co	¾-inch hose	58 ship units	643.50	188.50	$138.00
7-78	1068	Jan. 4, 1919	Ferguson, F., & Son	Propellers	2	60,720.00	1,380.00	(1)
7-376	2005	Jan. 27, 1919	Fernwood Lumber Co	Yellow pine lumber	389,447 feet	30,985.91	16,949.94	(1)
7-370	2138	do	Finkbine Lumber Co	do	688,480 feet	30,985.91	30,985.91	(1)
7-242	5630	Feb. 5, 1919	Flour City Ornamental Iron Co	Steel collars and pins	1 set	375.00	.00	(1)
7-61	4769	Feb. 18, 1919	Ford Chain & Block Manufacturing Co	Screw chain blocks	68 sets	23,598.00	7,429.00	(1)
7-46	4801	Dec. 23, 1918	Foster, George S	Hackmatack knees	Entire order	18,500.00	18,500.00	(1)
7-371	2000	Jan. 27, 1919	Frost-Johnson Lumber Co	Yellow pine lumber	704,534 feet	30,985.91	30,985.91	(1)
7-372	2019	do	do	do	704,534 feet	30,985.91	30,985.91	(1)
7-373	2047	do	do	do	517,840 feet	30,985.91	30,985.91	(1)
7-48	4753	Dec. 24, 1918	Gary, James, & Son	Cotton duck	10,800 linear yards	29,700.00	17,820.00	1,782.00
7-186	1727	Jan. 27, 1919	General Fire Extinguisher Co	Flanged fittings		54,000.00	8,442.00	734.76
7-733	1316	Feb. 21, 1919	Goodrich, B. F., Rubber Co	Gaskets	58 ship units		550.00	(1)
7-389	2053	Jan. 27, 1919	Great Southern Lumber Co	Yellow pine lumber	300,174 feet	30,985.91	12,985.25	(1)
7-380	2009	do	Griffin, J. M	do	1,069,413 feet	61,971.82	47,984.33	(1)
7-361	2084	do	Gulf Pine Co	do	704,534 feet	30,985.91	30,985.91	(1)
7-403	2089	do	Gulf Lumber Co	do	1,314,856 feet	61,971.82	57,825.86	(1)
7-391	2113	do	Hand, James	do	1,409,068 feet	61,971.82	61,971.82	(1)
7-739	3718	Feb. 21, 1919	Hetherington & Berner	Bulkhead stuffing boxes	2	5,247.00	106.00	(1)
7-210	RM 10870-RA	Jan. 30, 1919	Illinois Steel Co	Steel plates, bars, and angles		36,000.00	36,000.00	(1)
7-215	RM 10802-RA	do	do	Steel plates and bars		13,000.00	13,000.00	(1)
7-18	391	Feb. 5, 1919	Indestructible Ring Life Buoy Co	Cork ring life buoys	108	3,285.00	394.00	(1)
7-147	1580	do	do	do	360	1,314.00	1,314.00	(1)
7-148	1575	do	do	do	648	2,628.00	2,365.20	(1)
7-381	2010	Jan. 27, 1919	Industrial Lumber Co	Yellow pine lumber	1,409,068 feet	61,971.82	61,971.82	(1)
7-402	2076	do	Jackson, B. E., Lumber Co	do	704,534 feet	30,985.91	30,985.91	(1)
7-398	2093	do	Jackson Lumber Co	do	do	30,985.91	30,985.91	(1)

7-203	1311	Jan. 16, 1919	Jenkins Bros.	Back-pressure valves	58 ship units	22,410.00	2,610.00	(1)
7-309	1311	Jan. 24, 1919	....do	6-inch back-pressure valves	37 ship units		1,480.00	(1)
7-13	4020	Feb. 5, 1919	Johnsen Bros.	Scotch boilers	5	287,760.00	66,000.00	(1)
7-397	2094	Jan. 27, 1919	Kaul Lumber Co.	Yellow pine lumber	1,331,880 feet	$61,971.82	$59,468.84	(1)
7-432	5073	Jan. 14, 1919	Keystone Driller Co.	Steel nut wrenches	23		940.85	(1)
7-384	2029	Jan. 27, 1919	Kirby Bonner Lumber Co.	Yellow pine lumber	1,716,665 feet	92,957.73	75,160.17	(1)
7-44	1016	Dec. 23, 1918	Lane, C. M., Life Boat Co.	Lifeboats		32,056.00	[2] 1,552.10	953.62
7-49	3430	Dec. 24, 1918	Lane, J. H., & Co.	Cotton duck	500 linear yards	17,668.18	455.00	(1)
7-429	4654	Jan. 29, 1919	Leschen, A., & Sons Co.	Cast-steel wire rope	65 pieces, 690 feet each	15,138.00	13,119.60	(1)
7-399	2056	Jan. 27, 1919	Long-Bell Lumber Co.	Yellow pine lumber	1,165,359 feet	61,971.82	51,476.18	(1)
7-377	2006	....do	....do	....do	242,705 feet	30,985.91	11,438.43	(1)
7-213	RM 10786-RA	Jan. 31, 1919	Lukens Steel Co.	Steel plates		4,200.00		(1)
7-105	4705		Livermore Fire Brick Co.	Fire brick	149 settings	15,786.75	13,441.29	1,139.20
7-195	1320	Jan. 16, 1919	Manhattan Rubber Co.	Gaskets	58 ship units	4,482.00	522.00	(1)
7-314	1320	....do	....do	....do	37 ship units		333.00	(1)
7-400	2064	Jan. 27, 1919	Miller Link Lumber Co.	Yellow pine lumber	633,247 feet	30,985.91	27,322.36	(1)
7-258	4739	Feb. 13, 1919	McShane Bell Foundry Co.	5-inch air vent valves	68 valves	18,258.00	1,825.80	(1)
7-288	5238	Feb. 15, 1919	McGowan, John H,. Co.	Fresh water and evaporating feed pumps.	8	2,196.00	244.00	(1)
7-1	3435	Feb. 5, 1919	Mount Vernon Woodberry Mills	Cotton duck	3,600 linear yards	65,988.00	6,091.20	(1)
7-155	3423	....do	....do	....do	18,900 linear yards	150,696.00	24,807.60	(1)
7-7	3890	Jan. 16, 1919	Murray Iron Works	700-horsepower marine engines	20	1,127,910.00	537,100.00	(1)
7-41	5260	Mar. 11, 1919	Marine Decking & Supply Co.	Machining of 40 sets castings	35 sets	8,690.00	7,603.75	(1)
7-101	RM 10850-R	Mar. 10, 1919	Midvale Steel & Ordnance Co.	Hatch sections	23 tons	1,495.00	1,495.00	(1)
7-404	2090	Jan. 27, 1919	Natalbamy Lumber Co.	Yellow pine lumber	1 366,604 feet	61,971.82	60,238.63	(1)
7-329	1171	Jan. 21, 1919	National Mall. Casting Co.	Cast steel anchor chain	75 tons a day	9,000,000.00	6,750,000.00	(1)
7-310	3968	Feb. 24, 1919	National Tube Co.	Steel tubing	125 ship units	21,250.00	2,950.35	2,406.63
7-80	3995	Feb. 7, 1919	National X Ray Reflection	Signaling searchlights		3,714.00		
7-588		Feb. 8, 1919	National Mall. Casting Co.	Ferro manganese		87,500.00	87,500.00	26,250.00
7-204	3968	Jan. 16, 1919	National Tube Co.	Hot rolled seamless tubing	30 ship units	21,250.00	5,100.00	(1)
7-270	1655-L	Jan. 24, 1919	Nawrath, J. P., & Co.	Jute Twine	23 ship units	250.00	20.00	(1)
7-52	4470	Jan. 14, 1919	New England Chain Co.	Chain blocks and slings	70 sets	3,454.86	1,135.40	(1)
7-383	2015	Jan. 27, 1919	Newman, J. J.	Yellow pine lumber	209,968 feet	30,985.91	10,380.62	(1)
7-387	2051	....do	Nena Mills Co.	....do	604,253 feet	30,985.91	26,771.98	(1)
7-72	4330	Jan. 16, 1919	Northwestern Steel & Iron	Steady bearing	71	13,458.75	1,721.75	(1)
7-50	4962	Feb. 11, 1919	O'Leary, A. J., & Sons.	Thrust bearing lifting gears	104 sets	558.48	74.48	50.52
7-193	3262	Jan. 16, 1919	Ohio Blower Co.	Steam traps	56 ship units	5,900.00	1,670.00	(1)
7-209	RM 10890-RA	Jan. 30, 1919	Otis Steel Co.	Steel plates and sheets		6,000.00	6,000.00	(1)
7-47	5031	Dec. 23, 1918	Parker Wilder Co.	Cotton duck	33,700 linear yards	58,428.00	30,292.93	2,391.19
7-79	1169	Jan. 4, 1919	Pennsylvania Forge Co.	Steel flanges	65 ship units	86,206.58	12,145.90	(1)
7-311	1169	Feb. 20, 1919	....do	....do	31 units		5,800.00	(1)
7-253	1901	....do	....do	....do	4 ship units	4,100.00	720.00	(1)
7-268	3329	Feb. 21, 1919	Pittsburg Meter Co.	Whistle pull equipment	37 ship units	2,250.00	441.00	(1)
7-54	1976		Pittsburgh Screw & Bolt Co.	Bolts, nuts, and lag screws	66 ship sets	756.80	290.40	161.99
7-259	3856		Pauley Jail Building Co.	Bilge strainers	95 ship units	2,567.50	1,543.75	741.34
7-393	2104	Jan. 27, 1919	Ragley, W. G., Lumber Co.	Yellow pine lumber	704,534 feet	30,985.91	30,985.91	(1)
7-245	1959	Feb. 15, 1919	Rechester Lead Co.	Lead pipe	4 ship units	750.00	140.00	147.05
7-405	2091	Jan. 27, 1919	Rosa Lumber Co.	Yellow pine lumber	1,409,068	61,971.82	61,971.82	(1)
7-15	4019	Feb. 5, 1919	Ruemmeli-Dawley Manufacturing Co.	Scotch boilers	5	179,000.00	61,250.00	(1)
7-243	1179	Mar. 26, 1919	Rechester Lead Co.	Lead pipe	33 ship units	15,000.00	1,000.00	984.81

[1] Without cost.

[2] Accepted for salvage.

List of canceled per diems or contracts upon which agreements with contractors have been approved by the Assistant to the Director General in Charge of Cancellations and passed to final stage of consummation—Continued.

Case.	Per diem or contract.	Left Division of Cancellation, Adjustment and Salvage.	Contractor.	Item.	Quantity.	Amount of original order.	Amount in cancellation.	Amount of settlement.
7-266	4176	Feb. 21, 1919	Saginaw Sheet & Metal Co	Locked cases for steam system	37 ship units	786.00	222.00	(1)
7-395	2095	Jan. 27, 1919	Sabine Tram Co	Yellow pine lumber	679,368 feet	30,985.91	29,978.01	(1)
7-386	2046	do	Salmon Brick & Lumber Co	do	1,353,305 feet	61,971.82	59,760.09	(1)
7-20	4759	Feb. 21, 1919	Smith, T. L., & Co	Machine and assembling rudders	28 rudders	69,540.00	51,240.00	(1)
7-205	1180	Jan. 16, 1919	Southern Rome Co	Springs for built-in berths	340 ship units	8,500.00	[2] 850.00	(1)
7-140	1244	do	do	Metal berths		48,450.00	1,920.96	(1)
7-73	12045	Jan. 4, 1919	Spang Chalfonte Co	Steel pipe	5 ship units	115,000.00	6,000.00	(1)
7-315	12045	Feb. 5, 1919	do	do	20 ship units		46,000.00	(1)
7-388	2052	Jan. 27, 1919	Southern Lumber & Timber Co	Yellow pine lumber	449,554 feet	30,985.91	19,763.92	(1)
7-396	2092	do	Southern Pine Lumber Co	do	439,418 feet	30,985.91	19,845.75	(1)
7-233	5644-L	do	Speakman Co	Stuffing boxes	1 ship unit	1,115.00	223.00	(1)
7-56	1440	Dec. 23, 1918	St. Louis Malleable Casting Co	Steady bearing clinch rings	14 sets	321.05	26.67	(1)
7-483	5006-E	Mar. 10, 1919	St. Louis Brass Manufacturing Co	Portable tube blinkers	200	980.00	980.00	(1)
7-53	4750		Sweet, A. L., Iron Works	Jack screws	68 sets	942.45	311.10	31.11
7-869	4750		do	do	31 sets	942.45	141.83	14.18
7-34	5245	Dec. 23, 1918	Tindell-Morris Co	Line and propeller shaft forgings	4 sets, 4 extra tail shafts	180,184.00	56,828.00	(1)
7-256	3227	Feb. 7, 1919	Upson Nut Co	Bolts and nuts	33 ship units	9,326.20	1,458.60	(1)
7-257	3226	do	do	do	do	22,587.55	3,532.65	(1)
7-427	3189	Mar. 10, 1919	United States Gauge Co	Pressure and vacuum gauges	52 sets	6,088.72	4,278.56	
7-385	3032	Jan. 27, 1919	Wood, W. C., Lumber Co	Yellow pine lumber	400,291 feet	30,985.91	18,268.51	(1)
7-353	1208	Feb. 7, 1919	Walworth Manufacturing Co	Flanged fittings	90-3½ foot ells	300.00	300.00	(1)
7-374	2002	Jan. 27, 1919	Wausau Southern Lumber Co	Yellow pine lumber	281,820 feet	30,985.91	13,294.95	(1)
7-390	2124	do	do	do	531,458 feet	30,985.91	24,043.17	(1)
7-51	4754	Dec. 24, 1918	Wellington Sears Co., agents	Cotton duck	39,700 linear yards	92,598.00	79,916.00	3,630.37
7-649	C-112	Feb. 18, 1919	Western Spar Co	Spars	10	2,712.13	2,712.13	(1)
7-45	4253	Dec. 20, 1918	Wilcox, D., Manufacturing Co	Eye plates for og	1,800	4,500.00	4,500.00	421.29
7-262	1834	Feb. 7, 1919	Wing, R. B., & Son	Wool felt pipe covering	37 ship units	3,600.00	444.00	(1)
7-401	2075	Jan. 27, 1919	Wire Long Leaf Lumber Co	Yellow pine lumber	1,409,068 feet	61,971.82	61,971.82	(1)
7-426	1563	Jan. 28, 1919	Wirt Knox Manufacturing Co	Hose reels	67 ship units	19,000.00	[3] 3,123.54	(1)
7-738	972	Feb. 21, 1919	Youngstown Sheet & Tube Co	Steel pipe	18 ship units	174,020.00	22,374.00	(1)

[1] Without cost. [2] Reinstated. [3] We acknowledge for sale 469 reels, 469 wrenches.

List of reinstatements or withdrawals from the list of canceled per diems or contracts.

Case.	Per diem or contract.	Contractor.	Item.	Quantity.	Amount original ordor.	Amount in cancellation.	Items reinstated.	Price items reinstated.
7-4	3831	Allis Chalmers Manufacturing Co.	2,800 horsepower marine engines.	20	$2,000,000.00	$500,000.00	5	$500,000.00
7-619	2867	American Pressed Steel Co	Checkered steel plates	135 tons	13,500.00	13,500,00	135 tons	13,500.00
7-628	RM 11229-R	do	Steel floor plates	26 tons	2,210.00	2,210.00	26 tons	2,210.00
7-473	5300	American Safety Lump & Mine Supply Co.	Fusible plugs	300	270.00	270.00	300	270.00
7-118	10964	American Sheet & Tin Plate Co.	Blue annealed sheets	8 net tons	760.00	760.00	8 net tons	760.00
7-622	2814	do	Steel sheets	42 tons	3,570.00	3,570.00	42 tons	3,570.00
7-132	RM 10859-RA	do	Steel blue annealed sheets	2 tons	190.00	190.00	2 tons	190.00
7-957	3215	American Flag Co	Set of flags	35 sets of flags	10,500.00	5,250.00	20	2,250.00
7-379	3333	American Metal Hoso Co	Steam lance hose	47	3,056.00	752.00	47	752.00
7-1024	3937	Ames Iron Works	10-inch contrifugal circulating circulating pumps.	46 pumps	235,300.00	41,630.00	46 pumps	41,630.00
7-81	4827	Beach Manufacturing Co	Grato bars	116 sets	44,285.00	44,285.00	116 sets	44,285.00
7-239	1083	Bridgeport Chain Co	Brass chain	499 ship units	450.00	26.00	37 ship units	26.00
7-82	4831-A	Buckwalter Stove Co	Grate bars	35 sets	10,834.00	10,834.00	35 sets	10,834.00
7-84	4828	Burch Plow Works	do	116 sets	43,088.00	43,088.00	116 sets	43,088.00
7-281	3418	Buffalo Steam Pump Co	Fire, bilge, and general service pumps.	266	110,380.00	27,390.00	66	27,390.00
7-577	5713-A	Bros., William, Boiler & Manufacturing.	Foster boilers	18	181,080.00	90,540.00	9	90,540.00
7-436	1073	Bay City Foundry & Machinery Co.	Stern tube	35	159,840.00	42,560.00	35	42,560.00
7-55	MC 2537	Black Bros	Main engine lifting gear	60	2,492.60	679.80	60	679.80
7-758	3418	Buffalo Steam Pump Co	Fire, bilge, and general service pumps.	15	110,390.00	6,225.00	15	6,225.00
7-1136	5096	Broderick & Bascom Rope Co	Wire rope	309, 50 feet long	9,457.50	2,240.25	126	913.50
7-40	4783	Carpenter, Geo. B., & Co	Steel snatch blocks	300	4,008.00	4,008.00	300	4,008.00
7-211	RM 10868-RA	Carnegie Steel Co	Steel plates and shapes	44 tons	3,100.00	3,100.00	44 tons	3,100.00
7-618	10174	do	Steel shapes	776 tons	46,560.00	46,560.00	776 tons	46,560.00
7-624	2626	do	do	38 tons	2,280.00	2,280.00	38 tons	2,280.00
7-621	2821	do	Steel plates	74 tons	4,810.00	4,810.00	74 tons	4,810.00
7-208	RM 10869-RA	Cleveland Steel Co	Steel plates and sheets	31 tons	2,600.00	2,600.00	31 tons	2,600.00
7-627	2598	Colorado Fuel & Iron Co	Steel shapes	3,256 tons	195,360.00	195,360.00	3,256 tons	195,360.00
7-280	5140	Cook, C. Lee, Manufacturing Co.	Pump packing and rings	119 sets	2,832.20	856.80	36	856.80
7-532	5405-B	Carpenter, Geo. B., Co	Engineers' packing tools	73 ship sets	246.60	20.23	6 ship sets	20.23
7-291	3570	Cook, C. Lee, Manufacturing Co.	Packing and rings for pumps	31 sets	4,780.00	642.90	31 sets	642.90
7-314	4719	Dodge Manufacturing Co	450-horsepower engines	30 engines	495,000.00	495,000.00	2	33,000.00
7-444	4807	Davenport Locomotive Works	Coal buckets	41	2,499.00	697.00	41	697.00
7-344	4719	Dodge Manufacturing Co	450-horsepower engines	30	495,000.00	495,000.00	10	165,000.00
7-1130	1463	Du Val & Co., W. H	Blankets	1,555 blankets	212,914.00	7,728.00	1,555	7,728.00
7-240	5557	Fairbanks Co., the	Universal joints	140	593.60	118.72	28	118.72
7-410	3922	Federal S. B. Co	Scotch boilers	100	2,756,000.00	2,756,000,00	100	2,756,000.00

List of reinstatements or withdrawals from the list of canceled per diems or contracts—Continued.

Case.	Per diem or contract.	Contractor.	Item.	Quantity.	Amount original order.	Amount in cancellation.	Items reinstated.	Price items reinstated.
7-339	3888	Filer & Stowell	850-horsepower engines	10	$350,000.00	$350,000.00	7	$245,000.00
7-1112	1068	Ferguson, F., & Son	Propellers	26	60,720.00	19,562.40	3	2,257.20
7-721	4331	Goulds Manufacturing Co	Centrifugal circulating pump	3	14,400.00	7,200.00	3	7,200.00
7-768	3318	Griscom-Russell Manufacturing Co.	Evaporators	10	166,200.00	5,370.00	10	5,370.00
7-767	3318	do	Feed water heaters	10	127,800.00	4,260.00	10	4,260.00
7-338	3881	Hooven, Owens & Rentschler Co.	850-horsepower engines	40 engines	1,400,000.00	1,365,000.00	39 engines	1,365,000.00
7-763	4718	Helzer Machine Works	Hawser reels	5	9,120.00	240.00	5	240.00
7-358	{ 4007 / 4777 }	Hyde Windlass Co	6 by 6 capstans	40	155,000.00	37,240.00		30,130.00
7-35	3872	Ingersoll-Rand Co	2,800 horsepower marine engines.	8	792,000.00	198,000.00	2	198,000.00
7-111	RM 10823-RA	Illinois Steel Co	Steel plates	16 N. T	1,120.00	1,120.00	16 N. T	1,120.00
7-112	RM 10822-RA	do	do	70 N. T	4,900.00	4,900.00	70 N. T	4,900.00
7-207	RM 10824-RA	do	do	1 N. T	70.00	70.00	1 N. T	70.00
7-623	2644	do	do	9,268 tons	602,420.00	602,420.00	9,268 tons	602,420.00
7-625	2623	do	Steel shapes and bars	1,894 tons	113,640.00	113,640.00	1,894 tons	113,640.00
7-506	10464	do	Steel plates	1,090 tons	70,850.00	70,850.00	1,090 tons	70,850.00
7-617	10177	Jones & Laughlin Steel Co	Steel shapes	336 tons	20,160.00	20,160.00	336 tons	20,160.00
7-620	2856	do	do	1,648 tons	98,880.00	98,880.00	1,648 tons	98,880.00
7-1071	2876	do	Steel shapes and bars	4,175 tons	246,325.00	246,325.00	4,175 tons	246,325.00
7-1072	10844	do	Steel plates	7,740 tons	503,100.00	503,000.00	7,740 tons	503,100.00
7-1073	11031	do	Steel shapes and bars	160 tons	9,440.00	9,440.00	160 tons	9,440.00
7-271	3436	Edward Manufacturing Co	Sounding bars	37 ship sets	600.00	110.00	37 ship sets	110.00
7-586	5751	Epping-Carpenter Co	Fire and general service pumps.	2	14,400.00	1,440.00	2	1,440.00
7-252	3939	Empire Tire & Rubber Co	1½-inch rubber-lined cotton hose.	91 ship units	910.80	412.23	78 ship units	353.34
7-925	1120	Epping-Carpenter Pump Co	Air and circulating pumps	15	67,200.00	14,400.00	15	14,400.00
7-432	5073	Keystone Driller Co	Forged steel propeller nut wrench.	31	3,004.65	940.85	3	91.05
7-535	4913-B	Lord & Burnham	Light structural steel shapes	114 ship sets	106,501.08	28,960.82	31 ship sets	28,960.82
7-170	10861	Lukens Steel Co	Steel plates	216 N. T	20,000.00	20,000.00	216 N. T	20,000.00
7-953	1148	Lears, G. H., & Sons	Pillows	1,536 pillows	5,947.50	966.72	1,536 pillows	966.72
7-769	3857	Locomotive Feed Water Heater Co.	Evaporators	3	3,960.00	1,980.00	2	1,320.00
7-770	3857	do	Feed water heaters	3	4,560.00	2,280.00	2	1,520.00
7-95	3902-E	Marine Decking & Supply Co	Floor flanges	150	75.00	62.25	83	62.25
7-443	4336	Milwaukee Reliance Boiler Works.	Ash buckets	145	652.50	175.00	39	175.00
7-294	4081	McGowan, John H., & Co	Boiler feed pumps	31	132,249.60	16,014.60	31	16,014.60
7-345	4721	Montague Iron Works	450 horsepower engines	10	190,000.00	190,000.00	5	95,000.00

7-80	3995-E	National X-Ray Reflector Co...	12-inch signaling searchlights...	60	3,714.00			
7-409	1215	Newport Shipbuilding & Dry Dock Co.	Scotch boilers	200	5,200,000.00	5,200,000.00	200	5,200,000.00
7-286	4702	National Steel Tank Co	Fresh-water tanks	15	17,544.00	1,935.00	15	1,935.00
7-287	4650	Niles Steel Tank Co	Engineers' oil tanks	23, 200-gallon, 15 full sets.	17,805.60	2,262.75	23, 200-gallon, 15 full sets.	2,262.75
7-766	4650-B	do	200-pound soda tank, 120-gallon and 200-gallon oil tanks.	3 each	17,805.60	370.95	3	370.95
7-949	4962-B	O'Leary, A. J., & Sons Co	Thrust bearing lifting gears	31 ship sets	558.48	166.47	31	166.47
7-626	2618	Pacific Coast Steel Co	Steel shapes and bars	1,956 tons	117,168.00	117,168.00	1,956 tons	117,168.00
7-441	3889	Pittsburgh Steel & Belt Co	Steady bearing foundry bolts...	78 sets Y. P. ship sets; 83 sets D. F. ship sets.	7,219.40	2,246.40	48 sets Y. P. ship sets.	2,246.40
7-411	1186	Puget Sound Machinery Co	Scotch boilers	102	2,295,000.00	202,500.00	9	202,500.00
7-584	3623	The Prescott Co	1,400 horsepower marine engine.	12	630,000.00	367,500.00	7	367,500.00
7-743	12149	Pittsburgh Screw & Bolt Co	Hexagon nuts	1,000	587.50	391.68	1,000	391.68
7-717	3273	Peck Bros	Hose nozzles for fire hose	120	11,769.60	266.80	120	266.80
7-253	1901	Pennsylvania Forge Co	Steel flanges	4 ship units	4,100.00	720.00	4 ship sets	720.00
7-311	1169	do	do	31 ship units	86,206.58	5,800.00	31 ship units	5,800.00
7-418	4019	Ruemmeli Dawley Co	Scotch boilers	10	179,000.00	117,760.00		47,500.00
7-712	4601	Refrigeration Engineer Co	2-ton refrigerating plant	4	21,589.26	6,168.36	4	6,168.36
7-593	4364	Sizer Forge Co	Tail shaft forgings	1 tail shaft	616.00	616.00	1 tail shaft	616.00
7-205	1180	Southern Rome Co	Springs for built-in berths	3,400	8,500.00	850.00	340	850.00
7-85	4829	Spencer Heater Co	Grate bars	116 sets	41,771.00	41,771.00	116 sets	41,771.00
7-420	1132	Staten Island Ship Corporation	Scotch boilers	12	288,600.00	199,800.00	9	199,800.00
7-430	1440	St. Louis Malleable Casting Co	Steady bearing clinch rings	171 sets	321.05	59.06	31 sets	59.06
7-290	4197	Scranton Pump Co	Fresh water and evaporating feed pump.		25,187.50	4,143.75		4,143.75
7-335	5104-D	Smalley General Co	Wood ships	48	60,000.00	60,000.00	48	60,000.00
7-714	4471-B	Sizer Forge Co	Rudder stock forgings	4 sets	37,800.00	10,800.00	2	5,400.00
7-597	4199	do	Line and propeller shaft forgings.	4 sets	138,768.00	39,648.00	2	19,824.00
7-756	3317	Sturtevant, B. F., & Co	Induced draft outfits	4	107,892.00	3,996.00	4	3,996.00
7-266	4176	Saginaw Sheet Metal Co	Locked cases	65 ship units	786.00	409.50	65 ship units	409.50
7-1032	4196	Scranton Pump Co	Sanitary and independent bilge pump.	86	42,161.00	12,631.00	3	475.50
7-442	1067	Trout, H. G., & Co	Semisteel propellers	314	283,856.00	20,792.00	23	20,792.00
7-1113	4098	Thachner, George H., & Co	do	37 propellers	41,092.00	30,408.45	3	2,465.55
7-343	4722-B	Valley Iron Works	450-horsepower engines	12 engines	237,420.00	197,850.00	10 engines	197,850.00
7-103	4826	Vogt Bros	Grate bars	116	46,080.00	46,080.00	116	46,080.00
7-446	3023	Variety Manufacturing Co	Guy pads	432	2,023.72	846.72	432	846.72
7-582	5365-A	do	Fan casings and uptakes	4	22,550.00	2,980.00	4	2,980.00
7-868	4087-L	do	Steel bearing plates	87	868.50	391.50	87	391.50
7-472	4337	Wangler Boiler & Sheet Iron Works.	Fan casings and uptakes	20	14,986.00	2,997.20	4	2,997.20
7-83	4830	Western Foundry Co	Grate bars	117 sets	38,828.00	38,828.00	117 sets	38,828.00
7-643	3405	Wheeler, C. H., Manufacturing Co.	Condensate pumps	70	99,400.00	28,400.00	20	28,400.00
7-644	1125	do	Radojet pump outfits	70 outfits	282,800.00	80,800.00	20 outfits	80,800.00
7-225	4285	Worthington Pump & Machinery Co.	Oil cooler circulating pumps...	6	2,082.00	1,041.00	3	1,041.00

List of reinstatements or withdrawals from the list of canceled per diems or contracts—Continued.

Case.	Per diem or contract.	Contractor.	Item.	Quantity.	Amount original order.	Amount in cancellation.	Items reinstated.	Price items reinstated.
7-735	5129	Williamette Iron & Steel Co.	Scotch boilers	4	$80,000.00	$80,000.00	4	$80,000.00
7-736	4289	do	do	6	528,000.00	132,000.00	6	132,000.00
7-737	5253	do	do	12	296,800.00	296,800.00	12	296,800.00
7-641	5507	Worthington Pump & Machinery Co.	Circulating water pumps	20	32,972.00	11,990.00		11,390.50
7-642	5508	do	Oil pumps and spares	20	55,880.00	20,320.00	3	3,048.00
7-731	3314	do	Vertical twin-beam air pumps	5	118,916.00	9,590.00	5	9,590.00
7-754	3314	do	Twin-beam air pumps	3	118,916.00	5,754.00	3	5,754.00
7-734	4088	Westmore Ash Hoist Engine Works.	Ash-hoist engines	20	7,375.00	5,900.00	20	5,900.00
7-638	5090	Westinghouse Electric & Manufacturing Co.	Condensers and auxiliaries	20	4,311,900.00	650,000.00		787,320.00

APPENDIX G.

Per diem orders and cancellation cases, district offices.

District.	Total orders.	75 per cent and over.	50 per cent and over.	25 per cent and over.	Under 25 per cent.	Total cancellation cases.	Closed.	Home office.	Pending.
A	51	41	4	4	2	15	5	15	10
B	223	95	34	20	74	102	.....	47	55
C	178	54	62	31	31	107	.....	50	57
D	253	111	28	27	87	119	.....	68	51
F	22	13	6	.....	3	3	.....	1	2
G	225	134	35	56	.....	117	31	14	72
H	43	23	3	4	13	27	6	15	12
K	48	37	5	6	.....	10	.....	3	7
Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....
L-1	20	5	3	2	10	4	.....	0	4
Washington	.....	.....	.....	.....	.....	.....	.....	.....	.....
L-2	13	7	3	.....	3	3	.....	.....	3
Total	1,076	520	183	150	223	507	42	213	273

REPORT OF CONDITIONS IN DISTRICT A, AS SUBMITTED BY HERBERT FRYER, DISTRICT SUPPLY MANAGER, APRIL 12, 1919.

(1) *Purchases and production.*—Very few new purchase orders are being placed in this district, and those that are placed cover, for the most part, small miscellaneous equipment. There are a number of small purchases being made by the district purchasing officer at Portland, Me., probably about 7 or 10 a week, which we are following, but they require very little time.

Practically all orders in this district are well along and are simply waiting for shipping instructions to complete the contracts.

(2) *Production and inspection.*—We attach herewith in duplicate summary sheets of all orders in this district, together with our statement of April 12, as to weekly statement. You will note by a perusal of these sheets that we have practically no production work to follow, and inspection on the following:

Fitchburg Steam Engine Co., 1,400-horsepower engines, which will require one man until August or September of this year.

Canadian-Allis-Chalmers Co., 10 towing engines, which will probably require one man for the next two or three months, as a considerable amount of experimenting is being done with these units.

Hyde Windlass Co., Maine Electric Co., and Portland Sailmaking Co., all in the State of Maine, up to about May 15, at which time we expect to complete all orders in that section.

The Boston district on miscellaneous orders will require a man until about June 1.

Unless there are other orders placed in this district there is no question but what this office could be reduced to one man, stenographer, and two field men by June 1.

(3) *Cancellations.*—(*a*) All cases are conducted in accordance with Supply Division orders as issued, it being our practice to immediately issue cancellation notice upon receipt of same from Philadelphia and then within the next day or two to place an examiner in the plant affected and have a complete physical inventory made on the order in question. The manufacturer is then advised to draw up formal statement on proper form, which is checked by our examiner, and after going into all details cancellation is discussed in a conference in this office and recommendations made relative to same before forwarding to the proper parties at Philadelphia.

(*b*) The total number of cases handled by this office is 15.

(*c*) The total number closed, 5.

(*d*) Total number returned to home office for approval, 15.

(*e*) Total number of cases open, 10.

(4) *General summary of conditions.*—It is my recommendation that the Supply Division offices as now occupied be discontinued after June 1, and I have consequently given notice of vacation of lease for this time. Conditions now indicate that practically all orders, with the exceptions as noted above, will be cleaned up by the middle of May or the first of June, and the only matters of any considerable importance left over will be such cancellations as have not been closed.

The work of this office after April 15 will be handled by the following personnel: Supply manager, one senior examiner, one senior clerk, one file clerk, two stenographers, and four inspectors. Three inspectors have received notice of separation as of May 15, and it is my opinion that the balance of the work of the Supply Division can all be handled by the office organization then remaining, and inasmuch as there may be miscellaneous matters coming up from time to time relative to past occurrences, I believe some provision should be made for the transfer of this office to other Emergency Fleet Corporation Department, where sufficient space could be obtained to mainatin files with an examiner in charge of a clerk and stenographer. This would make ample provision for the cleaning up of such cancellations as were remaining after June 1, and also allow proper contact to be continued between the manufacturers and the home office for both old orders and such new purchases as might be made. It is of course impossible to give any accurate analysis of conditions after June 1.

REPORT OF CONDITION IN DISTRICT B AS SUBMITTED BY DISTRICT SUPPLY MANAGER P. A. TROST, DATED APRIL 14, 1919.

1. *Investigation relative to purchases and production.*—We have never kept special men on tap for this purpose. When we get an inquiry to investigate manufacturing facilities we draw on our general staff, selecting those best fitted for the particular job.

2. *Production and inspection.*—

	Per cent.
(*a*) Total number of purchase orders on hand, 223	100. 0
Number from 0 to 25 per cent completed, 74	33. 2
Number from 25 to 50 per cent completed, 20	9. 0
Number from 50 to 75 per cent completed, 34	15. 2
Number from 75 to 100 per cent completed, 95	42. 6

(*b*) Progress charts show that if our manufacturers produce on the existing purchase orders at the same rate as in the recent past, the bulk of the work will be finished about next August 1. Eight isolated cases drag out to November and December, but these no doubt can receive attention from the home office of the Fleet Corporation.

3. *Cancellations.*—(*a*) As soon as possible after issuing a suspense notice our field men make physical investigations. The details are recorded in field books which we use to check manufacturers' statements. If cost systems are complicated we engage auditors from the Fleet Corporation district office at 115 Broadway to make accounting examinations and report the results to us. These we attach intact to our recommendation to the home office.

All manufacturers' statements clear through executives here in the office and come to the writer for his attention. If he can not find questionable things, the papers are signed and forwarded to the home office; otherwise they are referred back to the manufacturer for more light or correction, whichever the case may be.

	Per cent.
(*b*) Total number of cases to date, 102	100. 0
(*c*) (*d*) Number of cases closed and returned to home office for approval, 47	46. 1
(*e*) Number of cases open, 55	53. 9

4. *General summary of conditions.*—If we are to finish the field work begun by us on suspensions and cancellations, it will probably take us into next fall or later. It is impossible now to guess the personnel which will be required to handle the situation and would rather guess that a minimum pay roll of $100,000 will be needed on the approved salary schedule for the coming quarter.

REPORT OF CONDITIONS IN DISTRICT C AS SUBMITTED BY DISTRICT SUPPLY MANAGER A. K. HINDS, DATED APRIL 14, 1919.

1. INVESTIGATION RELATIVE TO PURCHASES AND PRODUCTION.

Referring to this title, I interpret same to mean any new investigations which are made in investigating the factories and plants which are located in this district, relative to the placing of purchase orders and contracts. We are perhaps handling from three to five special investigations along these lines. The investigations as to production are all covered by our inspectors, who inspect the material, and, of course, make out the Form No. 341 reports. No special investigations are made of production nor have there been any since the signing of the armistice.

2. PRODUCTION AND INSPECTION.

Total number of purchase orders on hand, divided into classes, showing per cent completed.

Per cent completed.	Number of orders.	Per cent completed.	Number of orders.
0	13	50	62
5	15	75	36
10	1	90	1
20	2	95	1
25	23	100	16
30	1		
40	7	540	178

Or 178 orders 45 per cent average completed.
Production and inspection still necessary to complete.

Per diems and contracts.

Months required to complete.	Number of orders.	Months required to complete.	Number of orders.
0.0	22	6.0	23
.5	30	7.0	5
1.0	14	8.0	5
2.0	34	12.0	1
3.0	18		
4.0	26	43.5	178

Or 178 orders 4.35 months required to complete.

SUMMARY (PER DIEMS AND CONTRACTS).

Sixty-six orders will be completed by the end of May.
Thirty-four orders will be completed through the month of June.
Eighteen oreders will be completed through the month of July.
Twenty-six orders will be completed through the month of August.
Twenty-three orders will be completed through the month of October.
Five orders will be completed through the month of November.
Five orders will be completed through the month of December.
One order will be completed through the month of June, 1920.
Of the above, 44 are not inspected.

3. CANCELLATIONS.

Total number of cases to date	107
Number returned to home office for approval	50
Number of cases open	57

4. GENERAL SUMMARY OF CONDITIONS.

As you will note from the above report, we are handling at this time about 178 orders; which consist of general per diems and contracts, which shows that the work to date has not fallen off to any great degree as compared to the total number of orders which we were handling during the war. Besides the orders which we are now handling the cancellation work, consisting of about 107 cases, requires considerable time and a great deal of detail.

Regarding question 3 (*a*) of your letter, as to how cases of cancellation are conducted- I believe that Supply Division Order No. 95 covers exactly the procedure to be followed and will, therefore, not enlarge upon the same. We conduct our cancellation cases as outlined in this order. After receiving notice from the branch head to suspend work same is immediately issued out to the manufacturer in the form of a telegram, a repre. sentative following with the necessary forms, manufacturer's statements, etc., instructing the manufacturer as to how to fill out these forms and as to the information we require.

After the manufacturer has submitted a statement on the proper forms, the figures appearing on same are carefully checked by auditors or other representatives of this office and inventory of material in question is taken, after which we invite the principal officers of the contractors to visit us, at which time we go over the question involved and endeavor to thrash out with them the numerous differences which appear, working in the direction of having our case in such a condition that it will immmediately be clear to the different officials who are handling this matter in the cancellation department.

Our policy is to assume a fair and straightforward basis with the manufacturer, at the same time bearing in mind that we are working for the interest of the Fleet Corporation, and conducting affairs in such a way that the contractor will receive a fair and amicable adjustment of his claim.

We have established a prestige with the several hundred manufacturers with whom we have been in close touch since the beginning of the war and this reputation of fairness and square dealing on our part has helped us very materially in conducting these cancellation cases.

I am at a loss to give in any great detail the work which we as a district office of the Supply Division are doing, except to add that we feel our work is one of great importance and it has been accomplished with 100 per cent efficiency; that the personnel of this organization is one of the best in the Fleet Corporation, and I believe this organization to be a great asset to the Fleet in any work which it may have to handle.

We have on the pay roll at this time 47 persons. This no doubt will be reduced in the next month or two to a considerable degree, unless the management deems it advisable to place more work in this office.

REPORT OF CONDITIONS IN DISTRICT D AS SUBMITTED BY DISTRICT SUPPLY MANAGER A. E. HODGSON, DATED APRIL 16, 1919.

1. PURCHASE AND PRODUCTION.

There are very few investigations being made at the present time on account of placing new orders.

2. PRODUCTION AND INSPECTION.

Number of active equipment purchase orders on hand	253
Number of active steel purchase orders on hand	88
Total number of active purchase orders on hand	341
Number of orders requiring inspectors	178
Number of employees in inspection department	35
Purchase orders 25 per cent completed and less	87
Purchase orders 25 to 50 per cent completed	27
Purchase orders 50 to 75 per cent completed	28
Purchase orders 75 to 100 per cent completed	28
Purchase orders 100 per cent completed, but not shipped	83

All inspection and production of orders now on hand we estimate will be completed July 31, with the exception of 2,800-horsepower engine contracts with Hooven, Owens, Rentschler Co., Hamilton, Ohio, and the cast-steel chain contract with the National Malleable Castings Co., Cleveland, Ohio.

We estimate that the Hooven, Owens, Rentschler Co. will complete their contract about November 1, 1919. The National Malleable Castings Co.'s contract has approximately one year to run.

Due to the nature of this latter contract, a special force of five men is required to check the production; also, material and supplies required there. The engineer in charge wishes to be relieved of his duties and would suggest that the supervision of this contract be turned over to the home office May 15 or June 1, they to take over our present force there, appointing a new supervisor. However, both of these contracts can be turned over to the home office at one month's notice without causing confusion.

We attach a statement (see Exhibit A) showing the number of orders assigned to inspectors and the number of inspectors required month to month and approximate date of completion of these orders. The inspection and production can be turned over efficiently to the home office at one month's notice.

3. CANCELLATIONS.

See Exhibit B attached, showing procedure followed in suspensions and cancellation cases.

We have record of receiving 119 suspension cases to date. We have submitted reports to the home office covering 68 of this number, and still have 51 cases to report on. Included in this latter number are the 2,500-horsepower engine contracts in this district, value of these units suspended being $6,400,000.

4. GENERAL CONDITIONS.

We find that manufacturers are very slow and loth to make their claims and desire to play for time, and it is the writer's intention to spend a great deal of time on the road personally after May 1 to facilitate more prompt attention on the part of manufacturers.

We have 77 employees at the present time, including the Erie warehouse, production and inspection, cancellation, general office, and Buffalo branch office.

We believe that it is practical to turn over to the home office all inspection and production matters June 1, providing we receive notice not later than April 30. We can then close the Buffalo office and at the same time turn over to the home office the Erie warehouse and the National Malleable Castings Co.

We estimate that we can have all our present cancellation cases reported on previous to July 31, utilizing approximately 30 employees for this work. This will of course include our general office help, etc. It will take approximately two months to wind up all details of the office and close on or before October 1.

EXHIBIT A.

Estimate of inspectors required—Inspection only.

District.	Apr. 15.	May 1.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.
Buffalo: [1]								
Orders	52	22	11	4				
Men required	7	5	5	3				
Cincinnati: [2]								
Orders	16	4	2	1				
Men required	1	1	1	1				
Cleveland: [3]								
Orders	18	2						
Men required	1	1						
Dayton: [4]								
Orders	10	6	4	3				
Men required	1	1	1					
Erie: [5]								
Orders	4	3	2					
Men required	1	1	1					
Erie Warehouse:								
Orders								
Men required	1	1	1	1	1	1	1	1
Hamilton:								
Orders	5	4	4	4	4	2	2	2
Men required	4	4	4	5	5	4	4	4
Marion: [6]								
Orders	6	3	1					
Men required	1	1	1					
Massillon: [7]								
Orders	12	4						
Men required	1	1						
Mount Vernon: [8]								
Orders	1	1	1	1				
Men required	1	1	1	1				
Pittsburgh: [9]								
Orders	41	25	19	4				
Men required	2	1	1	1				
Point Pleasant: [10]								
Orders	5	4						
Men required	1	1						
Salem: [11]								
Orders	2	2	1					
Men required	1	1	1					
Toledo: [10]								
Orders	4	4						
Men required	1	1						
Youngstown [12]	2	2						
Total assignments	178	86	46	17	4	2	2	2
Total inspectors	24	21	17	11	6	5	5	5

[1] Complete about Aug. 1.
[2] Bureau of Steam Engineering; Navy can handle about July 1, or consolidate with Hamilton district.
[3] Complete approximately May 15.
[4] Taken care of from Hamilton after July 1, 3 days a week.
[5] Complete approximately July 1.
[6] Complete early in June.
[7] Complete approximately June 1.
[8] Complete early in July.
[9] Take over balance by district office approximately July 15.
[10] Complete in May.
[11] Complete early in June.
[12] Handled by district office; complete in May.

EXHIBIT B.

Cancellations.—A. With respect to conducting cancellation cases in this district, the following procedure is observed:

1. At the time suspension is issued, the manufacturer is requested to file claim or release, according to the condition of order.

2. If necessary a representative is sent from this office to assist in making out the manufacturer's statement.

3. Upon receipt of a claim this office satisfies itself, through a personal investigation at the factory or works of the contractor, that the claim is substantiated by the actual conditions.

4. Claim is then submitted to a committee of five members, in this office, for recommendation based upon the survey made by our representative and facts secured by him.

5. After considering the case and taking into account the various conditions affecting it, a recommendation is made, which, after having been approved by the district supply manager, is forwarded to the branch head at the home office.

B. We have record of 119 suspension cases to date.

C. Sixty-eight cases closed.

D. Twenty-eight cases, requiring manufacturer's statement or invoice, have been sent to home office for approval.

E. Fifty-one cases open.

REPORT OF CONDITIONS DISTRICT F, AS OF APRIL 14; DISTRICT SUPPLY MANAGER, J. N. ELEY.

INVESTIGATION RELATIVE TO PURCHASES AND PRODUCTION.

Naturally we are in touch with the various shops in this district, and when inquiries come to this office we are in a tentative position to know about what may be expected of shops should these orders be placed. When direct request comes from Philadelphia for financial and mechanical ability of a shop to produce we, if not already known, immediately investigate the financial condition, either through the established commercial agencies, or through our banking connections here. If necessary, we send a man to the shop and make a thorough analysis of conditions and, in some instances, talk with the superintendent or managers to ascertain their ideas of production of the materials we have under consideration. In any event, our opinion when expressed to you indicates that we are reasonably sure of these people financially and mechanically.

PRODUCTION AND INSPECTION.

Under this heading we have answered your clause A as to purchase orders on hand classified into 25, 50, and 75 per cent completion by the attached tabulation, which shows the exact percentages of completion, with additional data as to percentages on hand and yet to be completed.

As to time necessary to complete production and inspection, beg to advise that upon your request I slowed down production in this district everywhere as much as possible.

If we permit the Hardie-Tynes Manufacturing Co. to proceed in regular order and regular time, there should be no reason why all their contracts could not be completed by the latter part of May.

In like manner, Cruse-Crawford Co. will be cleaned up by that time.

You will note the cotton mill orders are virtually completed, and only await shipping instructions or further disposition.

The Valk & Murdock matter I am going down on personally to-night and will make recommendation as to further production or cancellation of this order.

The other one or two orders can be completed by the middle or latter part of May.

CANCELLATIONS.

When we receive notice, as per standard form of telegram, we immediately wire the contractor involved and likewise notify the inspector.

We request acknowledgment of this suspension and a statement as to the exact condition of this order. Upon receipt of this statement, we check over the same carefully and if necessary require it to be supported by the regular form or sworn statement.

We have two of these cases on hand to-day, one at the Hardie-Tynes Manufacturing Co., on P. D. 4315, originally 50 sets of line shafting on which 25 were canceled some months ago and 15 recently suspended. Report has gone forward to Mr. Ellis

on this recommending immediate issuance of cancellation order for 15 sets, since Hardie-Tynes have done no work on same.

The other case is that of the R. D. Cole Manufacturing Co., at Newnan, Ga., on 31 smokestacks, P. D. 4270, in which the Cole Co. are now preparing a sworn statement, and which the writer will check against their book records on or about Thursday of this week, after his return from the Valk & Murdock shops.

The only case returned to the home office was on direct recommendation that cancellation for 15 sets be issued against the Hardie-Tynes Manufacturing Co.

This leaves one case open, viz, the R. D. Cole Manufacturing Co.

Some time prior to this regular method of cancellation a special letter by the legal department was directed to Cruse-Crawford, cancelling some 500 tons of forgings on contract 1135, and acknowledgment of which Cruse-Crawford claim to have made, as requested, direct to Philadelphia. No further work has been done by them on this order and as there now seems to be no record of receipt of such letter or acknowledgment from them, we are getting same in order that proper cancellation order may be issued on them.

The writer has devoted his personal attention for at least the last 30 days in picking up every possible loose end prior to the opening of this office, in an attempt to bring all these matters to an absolute conclusion within the next few weeks, and it is believed that with the present personnel and without additional orders being placed in this district we should certainly be able to clear up matters by at least the 1st of the coming June.

General Report of Conditions in District G, as Submitted by Norman G. Nicholson, District Supply Manager, April 11, 1919.

1. Investigation relative to purchases and production.

During the early part of 1918 our engineers visited every manufacturing plant in this district and made up a complete capacity report upon each plant, a copy of each report was forwarded to Philadelphia, and the original kept on file in this office. This has enabled us at all times to be in a position to advise the Philadelphia office when called upon, as to the ability of the manufacturing plant to carry out production upon any contemplated order, and has also placed this office in a position to advise as to the purchases made.

2. Production and inspection.

(*a*) Total number of purchase orders on hand divided into classes 25, 50, and 75 per cent completed:

(1) We have now on hand a total of 225 active per diem orders, 56 of which are 25 per cent completed. Thirty-five of same are 50 per cent completed, 77 of same are 75 per cent completed, and while not called for in the letter, we are adding an additional 57 which are 100 per cent completed, but are waiting upon shipping instructions in order to ship, and inspection will not take place on some of them until they are ordered out upon shipping instructions forwarded from the distribution department.

(*b*) Brief statement as to amount of production and inspection still necessary to complete: (1) Production of these per diem orders is now up to schedule, but it will necessitate inspection at each plant where production is being carried on until the completion of the entire order.

3. Cancellation.

(*a*) How cases are conducted: (1) Upon notification from the Philadelphia office of the suspension, the contractor and our inspector at the plant of the contractor is immediately notified of the suspension, and the contractor is asked for a sworn state-

ment of the status of the order to date of the suspension. Then this office checks the statement and material at the plant, and wherever it is necessary to do so, we have a conference with a representative of the contractor. After arriving at what we feel is a fair adjustment, if in the event a cancellation is made, we then approve such statement and forward it to the branch head at Philadelphia for further action. If in case we can not agree, we advise the contractor that they have the right to take their matter into a court of claims for settlement, but so far we have not had any cancellations that we have had to turn down in this manner.

(*b*) Total number of cancellations to date: (1) In this district we have 117 cancellations.

(*c*) Number closed, 31.

(*d*) Number returned to home office for approval, 14.

(*e*) Number of cases open, 72.

1. Out of the total number of cases amounting to 117, as hereinabove given, six of these were handled direct by the Philadelphia office and closed, which really leaves 111 cancellation cases handled so far by this office.

4. GENERAL SUMMARY OF CONDITIONS.

It is practically impossible to arrive at a definite statement as to how much time will be required to complete the present work in this District until we are in a position to know what the Philadelphia office contemplates doing on the suspensions that we are now working on; for instance, we have had a number of suspensions that came into this office as early as December 16, 1918, and within the last two or three weeks have been reinstated and the contractor notified to proceed with production, but it is our opinion that it will require until November or December, 1919, to complete the work of the Supply Division in this district as far as production and inspection of the existing orders is concerned.

As to the personnel necessary for the completion of this work, we now have in this office 21 employees, and in addition, we have 20 inspectors in the field. It will be necessary to retain all of the personnel until these per diem orders are completed and shipments made.

WAREHOUSE SECTION.

This office in addition to the Supply Division work is now functioning on warehouse work, and we have under our jurisdiction now three warehouses, one located at Seventy-sixth and Wallace Streets, Chicago, Ill., one located at 1455 West Thirty-eighth Street, Chicago, and one located at Corliss, Wis. At these three warehouses we now have employed 50 people. This includes laborers, office help, skilled mechanics, etc.

We now have on hand something like 250 to 350 cars of material either in the warehouse or in the process of being unloaded and stored there, and all correspondence relative to warehouse work of any description clears through this office, so it can be readily seen that in addition to handling what heretofore has been our regular routine, that of the Supply Division, we have with the same personnel extended our efforts to cover that of the warehouse section.

It will be seen by a check of the blue print "Status of cancellations" that we have attached, and the complete list of per diem orders including our general summary, that we believe we have answered all your questions in detail, but should there be any individual matter that you would like more specific information on, we shall be glad to furnish same if you will only acquaint us with your wishes.

GENERAL REPORT OF CONDITIONS IN DISTRICT H, AS SUBMITTED BY WILLIAM G. CHRISTY, DISTRICT SUPPLY MANAGER, APRIL 12, 1919.

1. INVESTIGATION RELATIVE TO PURCHASES AND PRODUCTION.

We have considerable work to do on the Ruemmeli-Dawley contract, as questions are arising constantly on this. We also have some work on Midwest Engine Co. contract as the first of every month we have to check up on their monthly progress reports. Also have to look after shipments. Outside of these two contracts we do not have a great deal of work of this nature. Of course, questions are arising constantly in regard to the numerous per diems, but practically all of these can be handled by correspondence and this work can be done by two or three men in the office.

2. PRODUCTION AND INSPECTION.

(*a*) Total number of purchase orders on hand, under 25 per cent complete, 13; 25 per cent complete, 4; 50 per cent complete, 3; 75 per cent or more complete, 23; total number purchese orders on hand, 43.

(*b*) Amount of production and inspection remaining: General Ordnance Co. winch contract will run until about August 15; Midwest Engine Co. will run until about August 15; Ruemelli-Dawley Manufacturing Co., hard to estimate, but will probably run until about October 15; United Iron Works Co. will run until about June 15; Vajen Helmet Co., until about August 1; Henry Vogt Machine Co., until about May 15; C. Lee Cook Manufacturing Co., hard to estimate, but probably until about June 1 or 15.

Most of the balance of the orders are either completed now awaiting shipping instructions or will be completed in the near future.

(3) CANCELLATIONS.

(*a*) *How cases are conducted.*—On receipt of suspension order we consult our latest reports and report to Philadelphia if contract is more than 75 per cent completed, or suspension order will cause contractor's plant to be closed. Otherwise, we transmit suspension telegram to contractor. As soon as possible thereafter, we have one of our men call on the contractor, see that he has stopped work, furnish him with copies of manufacturer's statement and our distribution sheets and advise him how his statement should be made up and what data should be prepared. After manufacturer has prepared his data, we send one or more men to his plant to make physical inventory of material and check over his books and records to ascertain labor and overhead charges, miscellaneous expense and investment. Our representatives then assist the manufacturer in preparing final distribution sheets and manfacturer's statement.

Statement with accompanying sheets are then submitted to this office where we check over same to see that there are no errors and see that statements are made up in proper form. We then make our report to Philadelphia and give our recommendation.

(*b*) Total number of cases to date, 27.

(*c*) Number cases closed, 6.

(*d*) Number cases returned to home office for approval, 15 (this includes number closed).

(*e*) Number cases open, 12.

I might explain that the total number of cases, 27, includes several contracts where more than one suspension has been made on one contract. For example: On Emerson-Brantingham contract No. 1178, we have received three suspensions and two reinstatements. This is listed as only one case as one statement will be prepared for that suspension.

9. GENERAL SUMMARY OF CONDITIONS.

I estimate the personnel necessary to complete present work in this district approximately is as follows:

Senior examiner, 1; examiners, 3; inspectors, 3; clerk, 1; stenographers, 4.

It may be that in a short time we can dispose of the services of one inspector and later on we may need only three stenographers. However, this depends on whether we receive any suspensions on subcontracts. With the number of cancellations now on hand, we should be able to finish these up by about June 15. However, if we have to handle cancellations of the subcontracts, it will, of course, take a longer time, depending on the number of these cases we are called upon to handle. We also should finish up most of our production and inspection work by June 15. The only ones which will not be finished then will probably be:

General Ordnance Co., P/D. 4070. This is inspected by Mr. Harper, surveyor of the American Bureau of Shipping.

Ruemmeli-Dawley Manufacturing Co., St. Louis, which will run until about October 15. Inspection is handled by one of our own boiler inspectors.

Midwest Engine Co., about August 15. Inspection handled by Construction Division inspector.

Va jen Helmet Co., about August 1. Will have to make other arrangements to handle inspection of this if St. Louis office is closed.

This estimate is based on present rates of production and as we do not now expedite production some of these orders may be slowed down. Also, we may receive additional suspensions which, of course, would prolong our cancellation work.

It seems to me we have enough work in sight so that it will take until about July 1 to clean up everything. It will then have to be determined how a few outstanding contracts at that time are to be handled.

APPENDIX H.

Home Office.

Unit of organization.	Number of employees.	Salaries.	Total salaries of organizations.
1. Administrative office and general	2		$9,300
2. Office supervision	1	$4,500	
Organization unit	3	9,900	
Personnel unit	3	3,600	
Service unit	8	8,640	
Total	15		26,640
3. Equipment, cancellation section:			
Administrative office and general	2	7,440	
Record branch	4	10,700	
Mechanical branch	13	13,810	
Equipment branch	6	17,930	
Turbine branch	2	5,160	
Total	27		55,040
4. Material section:			
Administrative office and general	2	7,440	
Inspection branch	16	36,270	
Purchase branch	7	16,310	
Nautical institute branch	3	8,130	
Total	28		68,150
5. Lumber section	31		58,200
6. Raw material section	20		39,030
7. Material control branch:			
Administrative office and general	7	17,820	
Dispatching	30	53,180	
Requisitions and S I	9	10,780	
Schedule unit	3	6,420	
Salvage unit	6	9,200	
Inventory unit	3	9,000	
Transportation	11	25,320	
Claims	10	15,640	
Total	79		147,360
Grand total employees	202		
Grand total salary			394,720

Field organization.

DISTRICT SUPPLY.

	Number of employees.	Salary.	Total salary.
PHILADELPHIA.			
Office and general	2	$10,000	
Senior examiner	7	26,600	
Examiner	6	14,740	
Assistant inspector (machinery)	16	34,020	
Clerk	7	12,180	
Stenographer and typist	9	10,600	
Motor driver	1	1,440	
Total	48		$109,580
ATLANTA.			
Office and general	1	5,000	
Clerk	3	4,380	
Stenographer	2	2,520	
Inspectors (machinery)	3	6,960	
Total	9		18,860

Field organization—Continued.

DISTRICT SUPPLY—Continued.

	Number of employees.	Salary.	Total salary.
NEW YORK.			
Office and general	2	$8,900	
Senior examiner	7	23,400	
Examiner	13	28,700	
Inspector (machinery)	18	38,400	
Clerk	11	14,400	
Stenographer	6	6,280	
Telephone operator and messenger	3	1,644	
Total	60		$121,724
ST. LOUIS.			
Office and general	1	5,000	
Senior examiner	1	3,600	
Examiner	2	5,400	
Assitant inspector (machinery)	5	10,140	
Stenographer	4	4,440	
Clerk	1	1,200	
Total	14		29,780
CHICAGO.			
Office and general	2	11,000	
Senior examiner	1	4,200	
Examiner	4	11,100	
Inspector (machinery)	19	41,220	
Assistant inspector (machinery)	1	1,680	
Clerk and messenger	6	8,260	
Stenographer	6	6,624	
Motor driver	2	2,400	
Warehouse and surplus material	6	15,720	
Total	47		102,204
BOSTON.			
Office and general	1	5,000	
Senior examiner	1	3,300	
Assistant inspector (machinery)	5	11,100	
Stenographer	2	1,860	
Clerk	2	2,520	
Total	11		23,780
YOUNGSTOWN.			
Office and general	2	9,000	
Senior examiner	7	24,800	
Examiner	9	24,000	
Traveling inspector	2	6,600	
Inspector (machinery)	2	6,300	
Assistant inspector (machinery)	30	65,820	
Clerk	13	18,120	
Stenographer	13	15,000	
Storekeeper	1	2,400	
Guard	5	6,000	
Total	84		178,040
NEW ORLEANS STOREHOUSE.			
Storekeeper	2	4,380	
Clerk	10	9,600	
Watchman and guard	3	3,016	
Total	15		16,996
BALTIMORE STOREHOUSE.			
Storekeeper	2	4,020	
Clerk	3	4,020	
Stenographer and typist	2	1,980	
Motor driver	1	1,680	
Foreman	1	1,320	
Total	9		13,020

Field organization—Continued.

DISTRICT SUPPLY—Continued.

	Number of employees.	Salary.	Total salary.
NEW ORLEANS LUMBER.			
Assistant lumber supervisor	1	$4,500	
Lumber inspector	1	3,000	
Assistant lumber inspector	17	29,340	
Clerk	5	6,060	
Stenographer	4	4,920	
Porter	1	720	
Total	29		$48,540
METUCHEN STOREHOUSE.			
Storekeeper	2	4,320	
Examiner	1	2,600	
Clerk	2	2,912	
Stenographer and typist	2	1,820	
Foreman	41	52,916	
Total	48		65,468
WILSON POINT STORAGE YARD.			
Office and general	3	5,076	
Purchasing	2	2,240	
Lumber handling and inspection	17	30,602	
Warehouse and stock room	6	9,074	
Maintenance repairs and construction	10	17,784	
General overhead	6	8,034	
Total	44		72,810
Total employees	418		
Total salary			800,838
Home office, total employees	202		
Home office, total salary			394,720
Total	620		1,195,558

HOUSING AND PASSENGER TRANSPORTATION.

REPORT TO DIRECTOR GENERAL CHARLES PIEZ, BY J. WILLISON SMITH, MANAGER, AS OF APRIL 24, 1919.

I beg to submit the following report for the Passenger Transportation and Housing Division, giving a résumé of its activities.

On December 7, 1918, Mr. A. Merritt Taylor, then manager of this division, submitted to you a very comprehensive report, which was transmitted to the Committee on Commerce, United States Senate, which report clearly sets forth the work accomplished by this division to that date.

As a condition precedent to determining upon the necessity for and establishment of a housing project for the service of any shipyard, and the character and extent thereof, a most careful survey was first made of all deficiencies in passenger transportation facilities which throttled passenger traffic between the shipyard in question and all existing housing facilities. All existing housing facilities which were found to be unavailable to the shipyard by reason of lack of proper and necessary transportation facilities were made available to the shipyard mainly by either financing or establishing extensions and enlargements of such transportation facilities out of a separate appropriation made by Congress for that purpose in the amount of $20,000,000, or by placing steamboats and special trains in service. In this connection—

The purchase of 320 new street cars and 43 second-hand street cars was financed for the service of 17 shipyards.

Street railway extensions were either built or financed for the service of 12 shipyards.

Track changes and loops were financed for 20 shipyards.

Enlargement of railway power plant facilities was financed for 15 shipyards.

Thirty steamboats were placed in service for 12 shipyards.

Sixty special steam railroad trains were placed in service for 26 shipyards.

Street railway schedules were improved for 40 shipyards.

Working hours were staggered in 10 shipyards.

Steam railroad schedules were improved for 12 shipyards.

Over 125,000 shipyard employees are now being transported by the additional passenger transportation facilities thus established.

After thus exhausting all existing housing facilities which could be made available by transportation many shipyards were still unable to secure the men required to build the ships because there was no place for them to live within access of such yards; therefore, careful survey was made which determined the number of additional men required for the production of ships at such yards, the number and character of ships under contract at such yards, and the extent of the delay in ship production which in such yards was resultant from inadequate housing facilities.

The location, extent, capacity, and cost of the 24 housing projects under the supervision and control of the United States Shipping Board, Emergency Fleet Corporation, are embodied in the table annexed hereto as Exhibits I and I–1. These projects include substantial individual houses, apartments, dormitories, and hotels. The foregoing projects have a capacity to house 28,863 shipyard workers, or 56,296 individuals, and include the necessary stores therefor. The allotments for these projects aggregate $70,073,098, including 15 per cent for contingency, and substantially all of the aforesaid buildings are in advanced stages of construction or completed as shown by progress report hereto annexed as Exhibit J.

All the dormitories and cafeterias (except the cafeteria at Portsmouth, N. H., which is now closed) were finished and in operation at the time of the signing of the armistice, and since that date, owing to the lack of demand for this type of war emergency housing accommodation, it has been found necessary, to avoid continued operating loss, to close the dormitories and cafeterias at St. Helena, Md. (Bethlehem Shipbuilding Co.); Essington, Pa. (Westinghouse Electric & Manufacturing Co.); Ninety-fourth Street and Tinicum Avenue, Philadelphia (Hog Island plant). Approximately 6,375 houses and apartments are now completed.

A ruling of the War Industries Board, which prohibited until after December 15, 1918, the use of certain materials, particularly cement, for sidewalks, house walks, curbing, and roadway paving, prevented the commencement of the street work necessary for 3,292 houses in the following projects: Yorkship village, Camden, N. J.; Gloucester, N. J.; Manitowoc, Wis.; Bath, Me.; Lorain, Ohio; Hilton village, Newport News, Va.; Sun village, Chester, Pa.; Wilmington, Del.; Groton, Conn.

These street improvements are now being installed, but the delay caused by reason of the ruling of the War Industries Board and subsequently the winter weather have prevented a proper approach to these projects by prospective tenants. However, in spite of these

conditions, there are approximately 3,700 houses and apartments actually rented to date in the total number of 24 housing projects.

There is of necessity wide variation from the estimated cost of each project, owing to local and other conditions. It appears from the estimates and calculations recently made that the appropriation of $75,000,000 made by Congress will be adequate for the completion of all of the aforesaid 24 projects, as stated in Exhibit I, and that a substantial balance will remain unexpended.

The commitments made for the construction of various projects provide for 5 per cent loans made to certain public utility companies to enable them to construct public utilities required for the service of such projects and for the payment of the cost of certain street improvements and public utilities for which certain municipalities have agreed to reimburse the Fleet Corporation with interest at 5 per cent. The amount of loans so made to public utility companies (dependent upon actual cost) will approximate $850,000. The amount of reimbursements to be made by cities will approximate $2,000,000. These items will ultimately become credits on the cost of the respective projects. When possible the Fleet Corporation has thus, by loaning funds, placed the ultimate cost of public utilities and improvements thus financed upon the public utility companies and municipalities.

Upon the signing of the armistice the construction of the housing projects and appurtenances was in such an advanced stage that comparatively few houses could be eliminated from projects under construction, but in every instance where it was practical to curtail the later projects by the elimination of buildings upon which construction had not been materially advanced such eliminations were promptly made, and since the above-mentioned report of December 7, 1918, there have been considerable reductions, so that the figures set forth in Exhibit I represent the net number of units now actually under construction after such eliminations were made. The buildings actually eliminated from projects under construction immediately before and subsequent to the signing of the armistice on November 11, 1918, were as follows:

Location.	Company.	Character.	Number eliminated to Dec. 7, 1918.	Number eliminated since Dec. 7, 1918.
Camden, N. J.	New York Shipbuilding Co.	Houses	207	84
Port Jefferson, Long Island.	Bayles Shipyard	do	10	
Savannah, Ga.	Terry Shipbuilding Co.	do	110	
Do.	do	Hotel	1	
Do.	do	Boarding houses	2	
Groton, Conn.	Groton Iron Works.	Houses	116	10
Clyde, Calif.	Pacific Coast Shipbuilding Co.	do	100	2
Jacksonville, Fla.	Merrill-Stevens Shipbuilding Co.	Dormitory	1	
Vancouver, Wash.	G. M. Standifer Construction Co.	Houses		87
Do.	do	Apartment building.		1
Chester, Pa.	Sun Shipbuilding Co.	House.		1
Wilmington, Del.	Pusey & Jones and Bethlehem Shipbuilding Co.	Houses		7
Bristol, Pa.	Merchants Shipbuilding Co.	Houses[1]		[1] 5
Gloucester, N. J.	Pusey & Jones	Houses		10
Quantico, Va.	Missouri Valley Bridge & Iron Co.	Bunk houses		3
Number eliminated.			547	210
Total number eliminated.			757	

[1] Five old houses which were to be remodeled.

The following authorized projects upon which construction had not started were eliminated:

Location.	Company.	Character.	Number.
Pensacola, Fla.	Pensacola Shipbuilding Co.	Houses.	200
Tacoma, Wash.	Todd Dry Dock & Construction Co.	do.	100
Total.			300

The project at Savannah, Ga., after being approved by this corporation, was delayed owing to certain defects in the title to the land on which the building project was to have been erected. The actual work of construction was not started but certain engineering has been done at an expense of less than $5,000. The land has been purchased by the Terry Shipbuilding Co. and building materials delivered and certain commitments have been made by the Terry Shipbuilding Co.

An expression of opinion as to whether these houses should be constructed, which was promised by the Committee on Commerce, United States Senate, on January 9, 1919, has not been received, and in accordance with your instructions no work is being done on this project.

The housing project at Wilmington, N. C., has been abandoned.

The overhead pay roll of the housing department of this division on October 15, 1918, was equivalent to $778,700 per annum. Since that date it has been materially reduced, as shown herewith.

Section.	Number on pay roll.	Apr. 1, 1919, annual salary.	Reduction.	Apr. 30, 1919, annual salary.	Number on pay roll.	May 1, 1919, annual salary.
Passenger transportation	14	$52,920	2	$4,740	12	$48,180
Housing	121	340,800	27	82,850	94	257,950
Total	135	393,720	29	87,590	106	306,130

Exhibit K hereto attached sets forth the complete personnel of this division as of April 16, 1919.

The Passenger Transportation and Housing Division has been charged with the investigation and adjustment of all complaints as to labor displacement due to excessive rentals charged shipyard workers by their landlords. Over 3,050 such cases have been dealt with, of which 480 were on the Pacific coast and the remainder were on the Atlantic and Gulf coasts. In most cases generally meritorious complaints were settled amicably by negotiation. It was found necessary, however, to requisition the temporary use of 16 dwellings, all of which have been returned to their owners by settlements satisfactory to the Fleet Corporation, owner, and tenant.

A number of houses were requisitioned by Admiral Bowles in Philadelphia in April, 1918. Settlement for all of these houses was amicably made with the exception of 72 houses on Springfield Avenue and Trinity Street, west of Fifty-ninth Street, and negotiations with the owners of these houses should be made in the near future.

It is estimated that the work on all contracts in the Passenger Transportation Department will be completed on or before July 1, 1919; all contracts for housing construction will be completed on or before July 1, 1919, and all street improvements and public utility work in connection with housing projects will be completed on or before September 1, 1919.

As to the disposition of passenger transportation facilities, the agreements now in force with the various transit, utility, and shipbuilding companies require an appraisal and in most cases contain a stop-loss clause which is limited to 25 per cent. The interest on loans made to these companies is at the rate of 5 per cent per annum, and generally they are repayable to the Government in five equal annual installments.

As to the double tracking of Chester Pike between Darby and Chester there is no agreement, and this work was done entirely as an emergency measure to give the needed relief to the very congested industrial district of Chester and vicinity.

In view of the favorable condition of the real estate market and the demand for houses, I am of the opinion that in order to protect the investment made by the Government in its housing projects, either as mortgagees or owner in fee, that prompt disposition of the

houses should be made either "en masse" or to individual home buyers, depending on the conditions and advantages for sale affecting the respective housing projects.

This policy concurs with the policy already established before the Committee on Commerce, United States Senate, and the Committee on Appropriations, House of Representatives, as set forth in the letter addressed to Hon. Duncan U. Fletcher, chairman of the Committee on Commerce, United States Senate, dated January 16, 1919.

It is most important that, as soon as the costs are known, a definite write off for excess war costs shall be determined and the projects sold in the manner hereinbefore set forth.

Exhibit I.

United States Shipping Board Emergency Fleet Corporation, Division of Passenger Transportation and Housing, Housing Department—Schedule of housing projects including character of housing and number of men housed.

Shipyard.	Location.	Individual houses.	Men accommodated.	Apartments.	Men accommodated.	Dormitories.	Men accommodated.	Hotels.	Men accommodated.	Total men accommodated.	Total commitment plus 15 per cent reserve for contingency.
American International Shipbuilding Corporation (4 projects).	Hog Island, Philadelphia, Pa	1,989	3,978					4	2,042	6,020	$11,535,650
Newport News Shipbuilding & Dry Dock Co. (2 projects).	Newport News, Va	473	946	330	421					1,367	5,612,575
New York Shipbuilding Co. (4 projects)	Camden, N. J	[1] 1,581	3,162	[2] 56	112			1	38	3,312	10,953,750
Bethlehem Shipbuilding Corporation	Sparrows Point, Md	[3] 296 529 [4] 2	1,848 1,058 42							2,948	5,214,782
Atlantic Corporation	Portsmouth, N. H	278	556			8	384			940	2,185,000
Sun Shipbuilding Co. (2 projects)	Chester, Pa	712	1,442	56	112					1,554	4,094,000
Chester Shipbuilding Co. (2 projects)	do	278 [5] 1	556 152	106	168			1	292	1,168	3,450,000
American Shipbuilding Co	Lorain, Ohio	232	464	8	16					480	1,884,275
Texas Steamship Co	Bath, Me	109	218			4	72			290	1,322,500
Bethlehem Shipbuilding Co. and Pusey & Jones	Wilmington, Del	[6] 504	1,008	6	12					1,020	5,520,000
Merchants' Shipbuilding Co	Bristol, Pa	320	640	[7] 281	3,282			1	450	4,372	6,302,998
Pusey & Jones	Gloucester, N. J	447	894	1	2					896	3,483,925
Westinghouse Electric & Manufacturing Co. (2 projects).	Essington, Pa	200	400			2 1	614 [8] 27			1,041	2,239,186
Merrill Stevens Shipbuilding Co	Jacksonville, Fla	158	316							316	747,500
Bayles Shipyard (Inc.)	Port Jefferson, Long Island, N.Y.	9	18			1	206			224	345,000

[1] This includes stores with apartments over them.
[2] Included in the apartments are 6 stores on Collings Road, 2 stores with lodge rooms, and 2 clubrooms.
[3] Convertible.
[4] Boarding houses.
[5] Boarding house.
[6] Including store and apartment.
[7] Included in the apartments are 56 bachelor quarters and boarding houses and 13 brick houses.
[8] Women.

United States Shipping Board, Emergency Fleet Corporation, Division of Passenger Transportation and Housing, Housing Department—Schedule of housing projects, including character of housing and number of men housed—Continued.

Shipyard.	Location.	Individual houses.	Men accommodated.	Apartments.	Men accommodated.	Dormitories.	Men accommodated.	Hotels.	Men accommodated.	Total men accommodated.	Total commitment plus 15 per cent reserve for contingency.
G. M. Standifer Construction Co	Vancouver, Wash	[1] 20	40					1	500	540	460,000
Terry Shipbuilding Co	Savannah, Ga	120	230							230	402,500
Traylor Shipbuilding Co	Cornwell Heights, Pa	([2])	300							300	10,120
Detroit Shipbuilding Co	Wyandotte, Mich	[3] 79	158							158	508,587
Manitowoc Shipbuilding Co	Manitowoc, Wis	100	200			1	300			500	644,000
Groton Iron works	Groton, Conn	[4] 92 [5] 3	184 45			4	204			433	920,000
Newburgh Shipyards	Newburgh, N. Y	127	254	70	120					374	1,339,750
Pacific Coast Shipbuilding Co	Clyde, Calif	103	206					1	150	356	862,500
Missouri Valley Bridge & Iron Co	Quantico, Va	[5] 12	24							24	34,500
Total		8,774	19,339	914	4,245	21	1,807	9	3,472	28,863	70,073,098

[1] Cottages.
[2] Tents.
[3] One old house included.
[4] Of the 92 houses, 42 were constructed by the Emergency Fleet Corporation, and 50 houses and 3 boarding houses were under construction by the Groton Iron Works, 12 of which and 1 boarding house were completed by the Emergency Fleet Corporation, the balance having been completed by the Groton Iron Works. There are also 1 cafeteria and 1 boiler house.
[5] Boarding house.

Total number of persons housed in above projects:	
Houses	44,079
Apartments	7,147
Dormitories	1,807
Hotels	3,472
Total	56,505
NOTE.—This includes shipyard workers numbering 28,863, as recorded above.	
Present commitments plus 15 per cent reserve for contingency	$70,073,098
Allotted for administration expenses, compensation in requisition and guarantee of rentals	1,500,000
Total	71,573,098
Total appropriation by Congress	75,000,000
Total commitments, etc., as above	71,573,098
Balance not allotted	3,426,902

EXHIBIT I–1.

Balance sheet, including character of housing and mortgages received and contemplated, Apr. 23, 1919.

Name of shipbuilding company and location.	Name of project.	Character of housing.	Total commitment plus 15 per cent reserve for contingency, as now authorized.	Gross estimated cost.	Unexpended balance.	Additional amount required to complete.	Expenditures to dates mentioned.		Amount of mortgage received.	Amount of mortgage contemplated.
							Date.	Amount.		
American International Shipbuilding Corporation, Philadelphia, Pa.	Elmwood Avenue.	953 houses	11,535,650	3,532,812	2,295,792		Apr. 1, 1919	3,581,215.62		
	94th and Tinicum.	4 hotels, etc		2,069,738			Apr. 15, 1919	1,616,616.28		
	72d and Buist Sts.	600 houses		2,781,903			Apr. 1, 1919	1,261,445.11		
	Southwest Philadelphia.	436 requisition houses		855,405			Dec. 1, 1918	865,485.18		
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.	Hilton Village	173 houses, 5 stores, and auditorium.	3,830,075	3,637,068	193,007		Apr. 1, 1919	3,324,715.77	3,550,000	
	Washington Ave. Apartments.	330 apartments	1,782,500	1,681,860	100,640		do	1,565,109.34	1,550,000	
New York Shipbuilding Co., Camden, N. J.	Yorkship Village.	1,581 houses	10,953,750	12,500,000		$1,546,250	Apr. 15, 1919	9,551,342.62	12,500,000	
	First Haller	56 apartments [1]								
	Morgan Village	1 hotel								
	Fairview Extension.	7 stores, 1 bank								
Bethlehem Shipbuilding Corporation, Sparrows Point, Md.	St. Helena	296 convertible houses	1,592,282	1,613,154		20,872	Apr. 1, 1919	1,527,837.26	(2)	
	Dundalk	529 houses, cafeteria	3,622,500	3,893,579		271,079	do	3,733,508.33	3,350,000	
		10 stores, 2 boarding houses.								[3]
Atlantic Corporation, Portsmouth, N. H.	Atlantic Heights	278 houses	2,185,000	2,296,863		111,863	Apr. 15, 1919	2,169,444.47	1,750,000	[3] $75,000
		8 dormitories, cafeteria								
		5 stores								
Sun Shipbuilding Co., Chester, Pa.	Sun Village	712 houses	4,094,000	4,744,000		650,000	do	4,367,522.92	4,500,000	
	Sun Hill	56 apartments								
		8 stores								
Chester Shipbuilding Co., Chester, Pa.	Buckman Village	278 houses, 1 boarding house.	2,990,000	4,031,426		581,426	do	3,259,877.29	3,500,000	
	Hotel	106 apartments, 12 garages.	460,000				do	703,398.84	(2)	
		1 hotel, cafeteria								
American Shipbuilding Co., Lorain, Ohio.		232 houses	1,884,275	1,850,000	34,275		do	1,766,752.76	2,000,000	
		8 apartments								
		8 stores								

[1] Underneath the apartments are 6 stores on Collings Road; 1 bank, 1 store with lodge rooms and 2 clubrooms on Yorkship Square.
[2] Title vested in Emergency Fleet Corporation.
[3] School omitted.

Balance sheet, including character of housing and mortgages received and contemplated, Apr. 23, 1919—Continued.

Name of shipbuilding company and location.	Name of project.	Character of housing.	Total commitment plus 15 per cent reserve for contingency, as now authorized.	Gross estimated cost.	Unexpended balance.	Additional amount required to complete.	Expenditures to dates mentioned.		Amount of mortgage received.	Amount of mortgage contemplated.
							Date.	Amount.		
Texas Steamship Co., Bath, Me	.....	109 houses 4 dormitories, cafeteria 1 school building	1,322,500	1,277,500	45,000	.....	Apr. 15,1919	1,217,440.94	1,000,000	.....
Bethlehem Shipbuilding Co. and Pusey & Jones, Wilmington, Del.	.....	504 houses 6 apartments 4 stores	5,520,000	5,250,000	270,000	.....	.....do.....	4,623,342.09	5,250,000	.....
Merchants Shipbuilding Corporation, Bristol, Pa.	Harriman Village	320 houses, hospital, school. 281 apartments,[1] heating plant. 1 hotel, 18 stores, cafeteria.	6,302,998	6,262,368	40,630	.....	Nov. 30,1918	5,453,896.91	(2)	.....
Pusey & Jones, Gloucester, N. J.	.....	447 houses, 1 building, including firehouse, stores, apartment, assembly hall; 1 department store.	3,483,925	3,400,000	83,925	.....	Apr. 15,1919	3,022,785.51	3,000,000	.....
Westinghouse Electric & Manufacturing Co., Essington, Pa.	Dormitories	3 dormitories, cafeteria	491,761	481,526	10,235	.....	.....do.....	472,511.70	(2)	.....
	Houses	200 houses 1 store building	1,747,425	1,650,000	97,425	.....	.....do.....	1,506,951.38	1,000,000	.....
Merrill-Stevens Shipbuilding Co., Jacksonville, Fla.	South Jacksonville	158 houses	747,500	950,000	.....	202,500	Apr. 1,1919	914,768.60	700,000	.....
Bayles Shipyard (Inc.), Port Jefferson, Long Island.	.....	9 houses 1 dormitory Cafeteria	345,000	267,930	77,070	.....	Apr. 15,1919	249,450.52	375,000	.....
G. M. Standifer Construction Co., Vancouver, Wash.	.....	20 cottages 1 hotel	460,000	390,000	70,000	.....	Apr. 1,1919	379,044.80	350,000	.....
Terry Shipbuilding Co., Savannah, Ga.	.....	120 houses	402,500	350,000	52,500	.....	Feb. 18,1919	4,743.95	.....	$350,000
Traylor Shipbuilding Co., Cornwell Heights, Pa.	.....	Tents accommodating 300 men.	10,120	8,800	1,320	.....	Apr. 15,1919	5,000.00	.....	.....
Detroit Shipbuilding Co., Wyandotte, Mich.	.....	79 houses (1 old included).	508,587	500,000	8,587	.....	.....do.....	481,458.19	475,000	.....
Manitowoc Shipbuilding Co., Manitowoc, Wis.	.....	100 houses 1 dormitory Cafeteria	644,000	610,000	34,000	.....	.....do.....	622,053.86	700,000	.....

Groton Iron Works, Groton, Conn.		92 houses[3] 3 boarding houses 4 dormitories, cafeteria	920,000	966,534		46,534	do	889,893.21	1,250,000	
Newburgh Shipyards, Newburgh, N. Y.		127 houses 70 apartments 2 stores	1,339,750	1,310,536	29,214		do	1,287,367.16	1,200,000	
Pacific Coast Shipbuilding Co., Clyde, Calif.		103 houses 1 hotel	862,500	658,084	204,416		Jan. 18, 1919	338,157.63	750,000	
Missouri Valley B. & I. Co., Quantico, Va.		12 cottages	34,500	22,611	11,889		Apr. 10, 1919	22,611.19		
Total			70,073,098	69,843,697	3,659,925	3,430,524		60,805,749.45	48,400,000	350,000

Character of housing summary.

Houses	8,768
Boarding houses	6
Total	8,774
Hotels	9
Apartments	914
Dormitories	21
Cafeterias	11
Schools	2
Hospitals	1
Stores [4]	81

The cost of all street improvements and utilities is included in this statement.

RECAPITULATION.

Total commitments plus 15 per cent reserve for contingency. Now authorized	$70,073,098
Total estimated cost	69,843,697
Balance in reserve	229,401

Unexpended balance		$3,659,925
Amount necessary to complete		3,430,524
Balance in reserve		229,401
Appropriation by Congress		75,000,000
Present commitments plus 15 per cent reserve for contingency	$70,073,098	
Administration expenses, compensation in requisition and guarantee of rentals	1,500,000	
		71,573,098
Balance in general fund		3,426,902
Balance in general fund		3,426,902
Reimbursement from municipalities		2,000,000
Reimbursement from utility companies		850,000
Credit balance		6,276,902
Balance in reserve		229,401
Total balance in general fund		6,506,303

[1] Included in the apartments are 56 bachelor quarters and boarding houses and 13 bunk houses.
[2] Title rested in Emergency Fleet Corporation.
[3] Of the 92 houses, 42 were constructed by the Emergency Fleet Corporation and 50 houses and 3 boarding houses were under construction by the Groton Iron Works, 12 of which and 1 boarding house were completed by the Emergency Fleet Corporation, the balance having been completed by the Groton Iron Works.
[4] This includes 3 stores enumerated with houses at Morgan Village.

EXHIBIT J.

Percentage of completion as of Apr. 18, 1919.

	Per cent completed.
American International Shipbuilding Corporation, Philadelphia:	
Dormitories	100
953 houses	100
600 houses	65
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.:	
Hilton Village	89
Washington Avenue Apartments	99
New York Shipbuilding Co., Camden, N. J.:	
Yorkship Village	91
First Haller, 100 houses	100
Morgan Village, 100 houses	56
Fairview extension	43
Bethlehem Shipbuilding Co., Sparrows Point, Md.:	
St. Helena	100
Dundalk	99
Atlantic Corporation, Portsmouth, N. H., Atlantic Heights:	
Houses	99
Cafeteria and dormitories	100
Sun Shipbuilding Co., Chester, Pa.:	
Sun Village	98
Sun Hill	85
Chester Shipbuilding Co., Chester, Pa.:	
Buckman Village	99
Hotel	100
American Shipbuilding Co., Lorain, Ohio	100
Texas Steamship Co., Bath, Me	90
Bethlehem Shipbuilding Co., and Pusey & Jones, Wilmington, Del., Union Park Gardens	98
Pusey & Jones, Gloucester, N. J	87
Westinghouse Electric & Manufacturing Co., Essington, Pa.:	
Dormitories	100
Houses	95
Merrill-Stevens Shipbuilding Co., Jacksonville, Fla	100
Bayles Shipyards (Inc.), Port Jefferson, L. I.:	
Houses	100
Dormitories	100
G. M. Standifer Construction Co., Vancouver, Wash.:	
Hotel	100
Houses	98
Traylor Shipbuilding Co., Cornwell Heights, Pa	100
Detroit Shipbuilding Co., Wyandotte, Mich	100
Manitowoc Shipbuilding Co., Manitowoc, Wis	100
Groton Iron Works, Groton, Conn.:	
Houses	100
Dormitories	100
Boiler house	100
Newburgh Shipyards, Newburgh, N. Y., houses	98
Pacific Coast Shipbuilding Co., Clyde, Calif.:	
Houses	93
Hotel	90
Total	3,472
Number of projects	37
Average per cent of completion	93.48

Exhibit K.

Digest of Transportation conditions at Various Shipyards under contract with Emergency Fleet Corporation, to improve which additional Street Railway Facilities were financed by the Emergency Fleet Corporation, Summarized for each Contract drawn between Street Railway Company and Emergency Fleet Corporation, with progress of construction work as of April 12, 1919.

LEWISTON, AUGUSTA & WATERVILLE STREET RAILWAY CO. CONTRACT.

Location: Bath, Me., two shipyards in Bath holding contracts with Fleet Corporation, Texas Steamship Co., having contracts for 11 steel boats, and Kelly-Spear Co, building one wooden boat, with prospective contracts for four barges. Other plants in locality consist of Bath Iron Works, building 15 destroyers for Navy; G. G. Deering Co. and Percy & Small, building wooden schooners for private owners; Hyde Windlass Co., building deck auxiliaries and equipment work for other shipyards; and Torrey Roller Bushing Co., making ship castings. Employees of above industries at time of investigation, 5,600; estimated, future, 6,850.

Service provided by Lewiston, Augusta & Waterville Street Railway Co. as found consisted of through service, Bath to Brunswick and Lewiston, on 75-minute headway, rush-hour service consisting of one or two extra cars. Local service in Bath on 30-minute headway.

Main cause of inadequate service: Lack of cars and deficient power facilities, and lack of snow-fighting facilities.

Additional facilities needed to give adequate service to Bath shipyards determined by detailed survey of engineer this department. These consist briefly of 6 passenger cars, carrying 125 each in rush-hour service, 1 snow plow, additional transformers and transmission line capacity, small addition to car-house facilities and a new turnout between Bath and Brunswick.

Facilities 100 per cent complete.

HARRY A. WOOD CONTRACT.

Location: Portsmouth, N. H. Shipyard benefited: Atlantic Corporation, having contracts with the Fleet Corporation for 10 steel ships. Investigation showed that this shipyard had no direct street railway transportation service, being forced to depend upon motor busses operating between plant and Portsmouth. Portion of roadway used by this bus line could not be used by motor busses, so that even this means of direct transportation to plant failed at times. Shipyard and motor-bus operator requested Fleet Corporation to subsidize bus line to insure fair operating profit.

In order to retain this sole means of transportation to the plant, it was finally agreed that Fleet Corporation would construct wooden automobile roadway on defective portion of road at estimated cost of $3,343. It was, however, understood that no subsidy would be granted by Fleet Corporation to cover any possible operating losses by bus line.

Facilities 100 per cent complete.

RECEIVER BAY STATE STREET RAILWAY CONTRACT AND METROPOLITAN PARK COMMISSION CONTRACT.

Location: Boston, Quincy, and Squantum, Mass. Shipyards benefited: Fore River and Squantum plants of the Bethlehem Shipbuilding Corporation having contracts with Fleet Corporation for 13 steel ships and also contracts for submarine destroyers for Navy. Number of employees at time of investigation, 16,000; estimated, future, 19,000.

Street railway service is supplied by Bay State Street Railway Co. which is in hands of receiver.

Main cause of inadequate service due to bad physical condition of cars and deficient power facilities.

Additional facilities needed to give adequate service to Squantum and Fore River plants determined by detailed survey of engineer of this department. These consist briefly of rehabilitation of 26 cars and equipment of same for operation in two-car trains and also construction of additional feeder lines to provide sufficient power for satisfactory operation of street railway line to shipyards, all of which foregoing work was done by Bay State Street Railway under terms of contract with Fleet Corporation. In addition to this, in order to insure satisfactory and safe operation of cars over Neponset Bridge it was determined to widen this structure, which work was done in accordance with contract with Metropolitan Park Commission having jurisdiction over Neponset Bridge.

Facilities 100 per cent complete.

RICHMOND LIGHT & RAILROAD CO. CONTRACT.

Location: St. George, Staten Island, N. Y. Shipyards benefited: Standard Shipbuilding Co., Downey Shipbuilding Co., Staten Island Shipbuilding Co., and Johnson Shipyards Corporation, these yards having in the aggregate contracts with Fleet Corporation for 33 steel ships and 5 wooden ships. Number of employees at these yards at the time of investigation, 8,080; estimated future number, 13,000. As of January 1, 1919, these yards actually had 15,000 employees.

Street railway service provided by Richmond Light & Railroad Co., which also supplies industrial power to the Staten Island shipyards.

Main cause of inadequate transportation service: Lack of cars and power facilities.

Additional facilities needed to give adequate service to the Staten Island shipyards determined by a detailed survey of engineer of this department. These facilities consisted briefly of 20 passenger cars, substation converting apparatus, and powerhouse generating equipment.

Power for operation of Richmond Light & Railroad Co. depended almost entirely on one 7,500-kilowatt turbine unit, which, if out of service for any cause, seriously crippled the ability of company to generate power for street-railway and shipyard industrial purposes. Fleet Corporation financed in view of necessity for immediate action in the Staten Island situation, the purchase of 20 passenger cars, one 1,000-kilowatt rotary converter, and one 10,000-kilowatt turbo generator with accessories under terms and conditions as set forth in contract with Richmond Light & Railroad Co.

Ten of the 20 passenger cars purchased were to replace summer cars in winter service, and 10 were to provide transportation for additional employees that were to be taken on at the Staten Island yards.

Facilities: Cars, 100 per cent complete; power facilities, 60 per cent complete.

PUBLIC SERVICE RAILWAY CO.—FEDERAL SHIPBUILDING CO.

Location: Newark Bay; Federal Shipbuilding Co. having contracts for 30 steel ships and employing 5,000 men at the time investigation was made, with an estimate for the future of 6,000 men. Other plants in the vicinity are the Submarine Boat Corporation and the Foundation Co., the former having contracts for 150 steel ships and the latter 10 wooden ships, and employing 1,300 and 2,500 men, respectively, with an estimate for the future of 15,000 and 4,000.

Passenger transportation service was provided by the Public Service Railway Co. of New Jersey.

The main causes for inadequate service to the Federal Shipbuilding Co., as determined by engineers of the Division of Passenger Transportation and Housing were due to lack of power facilities and poor loading facilities.

Additional facilities needed: First a loop and a loading area for the Federal Shipbuilding Co.'s yard; second, transmission feeder consisting of 500,000-centimeter feed wires and 1,000-centimeter submarine cables from the Prankroad substation and from Garfield Avenue substation.

Facilities 100 per cent complete.

CONTRACT FOR CONSTRUCTION AND OPERATION OF TRACK ON CHESTER PIKE BETWEEN DARBY AND CHESTER, PA.

The provision of additional street railway transportation facilities between Philadelphia and Chester, consisting briefly of the construction of an additional track on the Chester Pike between Darby, on the outskirts of Philadelphia, and Chester, the purchase of 22 additional street cars for operation thereon, and of additional power facilities, was undertaken in order to relieve the terrific congestion on the lines of the Philadelphia Rapid Transit Co. in southwest Philadelphia, carrying workmen to and from Hog Island, the shipyards in Chester, and the plant of Westinghouse Co., Essington, building turbines for the operation of ships, and also employees of the Midvale Steel & Ordnance Co., Baldwin Locomotive Works, and the Eddystone Munitions Co., located in Chester, all of which plants were producing war munitions for the Government.

At the time of the investigation, the above-mentioned industries alone employed approximately 60,000 people, which number was expected to increase to 80,000 within the course of a few months.

The steam railroads serving the district were loaded to their utmost capacity, and the congestion on the street railway lines of the Philadelphia Rapid Transit Co. was so bad that the war industries in the district found themselves unable to maintain and increase their working forces to the extent required to accelerate production.

The street railway line connecting Philadelphia with Chester consisted of the double-track Chester Short Line of the Philadelphia Rapid Transit Co., which follows the river route to Chester, touching Hog Island, the Westinghouse plant, and the industries in Chester located along the river front. To the north of this line, and roughly parallel to it, the Southern Pennsylvania Traction Co. operated a single-track line from Darby to the heart of Chester, the maximum capacity of which was approximately 800 passengers per hour.

After a complete survey of transportation conditions and facilities in the district by engineers of the Passenger Transportation and Housing Division it was found that the only solution of the problem was to double track the line of the Southern Pennsylvania Traction Co. between Darby and Chester, and to provide additional passenger cars for operation of the line as a double-track road.

With such facilities constructed traffic could be immediately diverted from the Chester Short Line of the Philadelphia Rapid Transit Co. and thus relieve the congested condition on that line, and which would at the same time provide transportation facilities for the increases in working forces of the shipyards and other war industries in the district. It was originally planned to finance the construction of these facilities by means of a loan to the Southern Pennsylvania Traction Co. upon the usual terms and conditions. Before the Traction Co. could agree to assume such an obligation it was necessary for it to secure the necessary reasonable franchises from the boroughs through which the line passed, in order that the company would have the legal right to maintain the new track after the termination of the war, and to effect the sale of bonds, from the proceeds of which it was to repay the Fleet Corporation for the cost of construction.

The railway line being located on a privately owned toll road it was also necessary for the company to secure a permanent right of way for the track thereon.

Negotiations were immediately entered into with the borough councils and the officials of the toll road to secure the necessary franchises and right of way, but these

officials insisted upon such burdensome provisions in the franchises that the Traction Co. could not accept them for the reason that it could not effect the sale of bonds on a railway constructed under such burdensome conditions as the boroughs and toll-road people sought to impose.

Many conferences were held in the attempt to secure the reasonable cooperation of the borough officials to the end of protecting Government financial interests, these conferences lasting from the latter part of April until the first part of June, 1918, when the war activities were at their height. The borough officials persisted, however, in their obstinate tactics and after a full consideration of war-time necessities requiring physical results it was decided to commandeer the right of way and to construct the tracks without franchises or permits from the local authorities. These steps were immediately taken, and the work of construction thereupon started and brought to a completion.

The Fleet Corporation is, therefore, in the position of owning this track and roadway construction, built without franchises, and with no agreement, as of the present date, with the Traction Co. to purchase its investment therein. Contracts have been executed, however, with the Traction Co. for the repayment of Fleet Corporation investment in cars amounting to $319,000, and for the amount advanced to the Traction Co. for the reconstruction of its old single track paralleling the new track of the Fleet Corporation in the amount of $87,734.

The track and roadway facilities constructed by the Fleet Corporation are being operated by the Traction Co. under a lease contract, which provides for the payment of interest at the rate of 5 per cent per annum on the Fleet Corporation's investment. Negotiations are now under way with the boroughs for grant of reasonable franchises, and it is fully expected that these will be secured, when the Traction Co. will enter into an agreement for the purchase of the Fleet Corporation's investment in the track and roadway construction upon an equitable basis.

PUBLIC SERVICE RAILWAY CO.—CONTRACT FOR TRANSPORTATION FACILITIES IN CAMDEN, N. J.

Shipyards benefited: New York Shipbuilding Corporation, Camden, N. J., and Pusey & Jones Co., Gloucester, these shipyards having at the time of the investigation 50 steel ships under contract, having an aggregate tonnage of 404,970 tons. Number of employees at time of investigation, 11,000; estimated future number, 16,500.

Transportation service to the shipyards provided mainly by electrified line of West Jersey & Seashore Railroad, and by double-track line of the Public Service Railway Co. running past the shipyards.

Transportation facilities which the street railway company was able to supply were absolutely inadequate to the demand, shipyard workers riding on the top of the cars during the evening rush hours.

Causes of inadequate service: Lack of car and power facilities, inability of railway company to obtain men to run their cars.

Additional facilities needed to provide adequate transportation on the street railway system were determined by detailed survey of engineer of Passenger Transportation and Housing Division. These consisted briefly of 33 new cars, additional equipment for power house and substations, additions to overhead transmission line, and construction of terminal delivery loops at each shipyard.

It was also found that by staggering the hours of starting and stopping work at each shipyard, it was possible to secure immediate relief of congested rush-hour conditions, eliminating the necessity of purchasing additional cars to handle the load. Arrangements were also made to utilize shipyard workers to operate cars to make up for the scarcity of motormen and conductors.

Facilities: Passenger car, track, and line equipment, 100 per cent complete; power, facilities 92 per cent complete.

PUBLIC SERVICE RAILWAY CO.—CONTRACTS FOR EXTENSION TO YORKSHIP VILLAGE.

This contract provided for the construction of a track extension from the main Broadway line of the Public Service Railway Co. to Yorkship Village in order to provide the occupants thereof with direct transportation to the shipyards in Camden and Gloucester.

Construction work is 86 per cent complete, and service is now being operated between Yorkship Village and New York Shipyard.

THE UNITED RAILWAYS & ELECTRIC CO. OF BALTIMORE.

Location: Baltimore, Md.; four shipyards, as follows:

First. Bethlehem Shipbuilding Corporation, at Sparrows Point, having contracts for 56 steel ships and employing 5,600 men, with the estimate for the future of 7,500 men.

Second. Baltimore Dry Dock & Shipbuilding Co., at Locust Point, having contracts for 31 steel ships, and employing 7,600 men, with an estimate for the future of 11,000.

Third. Maryland Shipbuilding Co., located at Sollers Point, having contracts for six wood ships, with a total number of employees amounting to 900 men and an estimate of 12,500 for the future.

Fourth. Henry Smith & Sons (Inc.), at Curtis Bay, having contracts for eight wood ships, and employing 350 men, with estimate of 600 men for the future.

Service to Henry Smith & Sons Co. and Baltimore Dry Dock Co. was provided by United Railways & Electric Co. of Baltimore, and to the Bethlehem Shipbuilding Corporation and Maryland Shipbuilding Co. by the United Railways & Electric Co. and by the Pennsylvania Railroad, Sparrows Point Division.

The main causes for inadequate service, as determined by engineers of the Division of Passenger Transportation and Housing, were lack of cars for use on the United Railways & Electric Co. lines and the fact that the nearest point on the railway line was at too great a distance from the plant of the Bethlehem Shipbuilding Corporation.

Additional facilities needed: First, 50 new cars; second, extension of United Railways & Electric Co. line to Sparrows Point plant from Bear Creek Bridge.

Facilities: Cars, 50 per cent complete; track extension, 100 per cent complete.

NEWPORT NEWS & HAMPTON RAILWAY GAS & ELECTRIC CO.

This contract provided for the construction of extension to the street railway line of the Newport News & Hampton Railway Gas & Electric Co. to Hilton village, the housing project constructed to house employees of the shipbuilding industries in Newport News, and also provided for the purchase of 10 new passenger cars for operation between Hilton village and the shipyards.

Facilities: 100 per cent complete.

TIDEWATER POWER CO.

Location: Wilmington, N. C.

Shipyards: (1) Carolina Shipbuilding Co., with contract for 12 steel ships, and employing 295 men, with an estimated future number of 1,000 men. (2) Liberty Shipbuilding Co., with contracts for 8 concrete ships, and a force of 400 men, with an estimated future number of 1,000 men. Total, 20 ships; 695 employees at time of investigation, and 2,000 employees estimated for the future.

Transportation service is provided by the Tidewater Power Co. operating the street railway system of Wilmington and by boat service.

The main cause of inadequate service, as determined by the engineer of the Passenger Transportation and Housing Division: Lack of trackage and car facilities and lack of power facilities.

Additional facilities needed: (1) A second track for a portion of the distance to the shipyard and a single track for the remainder of the distance. (2) Power facilities as follows: One turbine generator, rewinding present turbine generator, two transformers, one transformer panel, water-tube boilers, necessary wiring and switching apparatus. (3) eight second-hand cars.

Facilities: Track and overhead, 100 per cent complete; power, facilities 85 per cent complete; second-hand cars purchased.

SAVANNAH, GA.

Shipyards: (1) Terry Shipbuilding Co., with contracts for 10 composite ships and 10 oil tankers. Number of employees, 1,400, with an estimate of 4,000 for the future. (2) National Shipbuilding and Dry Dock Co., two wood ships, with 700 employees and an estimated future number amounting to 2,200. (3) Southland Steamship Co., with contracts for 7 wood tugs, with 50 employees and no estimated increase. Total employees, 2,150; estimated future employees, 6,250.

Transportation service by boat and by train service on the Savannah & Atlanta Railway.

The main cause of inadequate service, as determined by the engineer of the Passenger Transportation and Housing Division, was the fact that the Savannah Electric Railway Railway Co.'s extension to the shipyard of the Terry Shipbuilding Co. was held up because of inability of street railway to purchase the right of way across the Whitehall plantation.

The Emergency Fleet Corporation proceeded to and did acquire the right of way, and construction of the railway line was forthwith completed.

CHARLES SWANK.

Location: Beaumont, Tex. Shipyard: Lone Star Shipbuilding Co., employing 1,400 men and expecting to reduce this force by 200 or 300 in the future. Contracts for eight wooden ships.

Passenger transportation service is provided by the Beaumont Traction Co. and by ferry service. The main inadequacy in the transportation, as determined by the engineer of the Division of Passenger Transportation and Housing, was due to unsatisfactory ferry service.

In order to remedy this, it was necessary to purchase a ferryboat, and all rights and licenses for operation of same, from Charles Swank for operation for employees of the Lone Star Shipbuilding Co. only. Earnings of ferry credited to Emergency Fleet Corporation.

DULUTH STREET RAILWAY CO. CONTRACT.

Location: Duluth, Minn., and Superior, Wis., four shipyards holding contracts with the Emergency Fleet Corporation as follows:

McDougall-Duluth Co., having contracts for 34 steel ships and employing 1,600 men, with an estimated future number of employees of 3,100.

Superior Shipbuilding Co., Superior, Wis., subsidiary of American Shipbuilding Co., having contracts for 14 steel ships, and employing 1,400 men, with an estimated future number of 1,600.

Globe Shipbuilding Co., Superior, Wis., having contracts for 15 steel ships and employing 800 men, with an estimated future number of 1,200.

Whitney Bros., with contracts for wood tugs, employing 300 men, with an estimated future number of 500.

Passenger transportation service is provided by street car lines of the Duluth Street Railway Co. The service to the plants of the Superior Shipbuilding Co., Globe Shipbuilding Co., and Whitney Bros., which are located within a short distance of each other in Superior, was not unsatisfactory. The service to the McDougall-Duluth Co., as determined by an engineer of the Division of Passenger Transportation and Housing, was inadequate due to lack of car and power facilities.

The additional facilities needed were six new single and double truck cars, one snow plow, and 1,000 kilowatt rotary converter with transformer and switchboard apparatus.

Facilities practically 100 per cent complete.

CITY OF TACOMA.

Shipyard affected: Todd Dry Dock & Construction Co., having contracts for 10 ships, and employing 5,100 men, with an estimate of 8,000 men for the future.

Other plants in the locality are Seaborn yard, with contracts for 10 wood ships, employing 1,000 men, and expecting to employ 1,200 in the future; the Wright yard, with contracts for 6 wood ships, employing 550 men, and expecting to employ 700 men in the future; the Tacoma Shipbuilding Co., with contracts for 8 wood hulls, employing 800 men, and expecting to employ 1,000 men in the future; Barbare Bros., with contracts for 3 wood ships, employing 175 men, and expecting to employ 200 men in the future.

The total contracts held by these four yards amounts to 27 wood ships, and at the time of the investigation they were employing 2,525 men, with an estimated future number of 3,100.

Passenger transportation service provided by means of a ferry, auto busses, and the street railway line of the Tacoma Municipal Railway.

The principal causes of inadequacy of service, as determined by the engineer of the Passenger Transportation and Housing Division were (1) lack of sufficient rolling stock, and (2) dependence on single track line to shipyard.

The additional facilities needed to give adequate service were as follows: (1) Ten additional double-truck cars; (2) construction of a second track on the line of the Tacoma Municipal Railway to the Todd Dry Dock & Construction Co., a total length of 3,950 feet, with the necessary widening of trestle; (3) the establishment of a prepayment loading station.

Facilities 100 per cent complete.

PORTLAND RAILWAY LIGHT & POWER CO.

Location: Portland, Oreg.

Plants affected: Columbia River Shipbuilding Corporation, with 2,600 employees, and estimated future number of 4,100, with contracts for 36 steel ships. Northwest Steel Co., with 3,500 employees, and estimated future number of 4,200, with contracts for 31 steel ships. Coast Shipbuilding Co., with 700 employees; no estimated increase; contracts for 8 wood ships. Total employees affected, 6,800; estimated future number, 9,000.

There are many other plants in the vicinity doing Emergency Fleet Corporation work.

The passenger transportation service is furnished by their regular service, augmented by about 25 tripper cars used in the rush hours. This service, however, is inadequate.

The principal causes of inadequacy of this service, as determined by the engineer of the Passenger Transportation and Housing Division, were lack of cars and insufficient track facilities.

The additional facilities required and provided by the Fleet Corporation are (1) 25 cars and (2) three terminal loops, provided by building tracks on certain streets so as to make loop around city block.

Facilities 100 per cent complete.

SAN DIEGO ELECTRIC RAILWAY CO.

Location: San Diego, Calif. Shipyard: Scofield Engineering Co. (Pacific Marine & Construction Co.). Contracts for 8 concrete ships. Employees at time of investigation, 1,000; estimated future employees, 1,500. No other shipyards in the city.

Passenger transportation service is furnished by busses and by street railway service of the San Diego Electric Railway Co.

The principal inadequacy in the service, as determined by the engineer of the Division of Passenger Transportation and Housing, is lack of trackage facilities of the Thirty-first Street line to the shipyard.

The additional facility needed to give adequate service is the extension of the Thirty-first Street Line, partially single and partially double track with stub and near the shipyard, together with the necessary trolley and feed-wire system.

Facilities 100 per cent complete.

Contracts for construction of street railway facilities serving shipyards between street railway companies and Emergency Fleet Corporation.

Contracts providing for repayment of funds advanced by Emergency Fleet Corporation upon bases varying from 75 per cent to 100 per cent of the amount advanced:

	Estimated amount of contract.
Lewiston, Augusta & Waterville Street Railway Co. (part)	$81,500
Receivers of Bay State Street Railway	67,135
Richmond Light & Railroad Co	346,460
Public Service Railway (service to Federal Shipbuilding Co.)	28,995
Southern Pennsylvania Traction Co	86,412
Public Service Railway (Yorkship Village extension)	215,947
City of Tacoma (part)	86,800
San Francisco-Oakland Terminal Railway	9,675
San Diego Electric Railway	57,000
Total	979,924
Contingencies (15 per cent)	146,989
Total	1,126,913

Contracts providing for repayment of funds advanced by Emergency Fleet Corporation upon bases of an appraisal not to be less than 75 per cent of cost of construction:

Lewiston & Augusta Street Railway (part)	99,000
Richmond Light & Railroad Co	260,000
Southern Pennsylvania Traction Co	319,000
United Railways & Electric Co	975,110
Newport News & Hampton Gas & Electric Co	225,000
Tidewater Power Co	340,000
Duluth Street Railway	81,058
City of Tacoma (part)	145,600
Portland Railway & Light Co	171,000
Total	2,615,768
Contingencies (15 per cent)	392,365
Total	3,008,133

Contracts providing for repayment of funds advanced by Emergency Fleet Corporation upon bases of appraisal with no "stop loss" provision:

	Estimated amount of contract.
Public Service Railway (service to Federal Shipbuilding Co.)	$10,591
Chester Pike Railway project	813,000
Public Service Railway (service to New York Shipbuilding Co. and Pusey & Jones Co.)	1,240,780
Newport News & Hampton Gas & Electric Co. (part)	75,000
Philadelphia Rapid Transit Co	2,099,446
Philadelphia Railways Co	826,006
Public Service Railway (extension to Submarine Boat)	837,345
Total	5,902,168
Contingencies (15 per cent)	885,325
Total	6,787,493
Canceled contracts	628,590

CONTRACTS ENTERED INTO BY EMERGENCY FLEET CORPORATION FOR PROVIDING STREET RAILWAY FACILITIES FOR TRANSPORTATION OF SHIPYARD EMPLOYEES.

District.	Contract drawn with—	Shipyard and war industries benefited.	Description of work.	Estimated amount of contract.	Financial terms.		Expenditures to Dec. 31, 1918.	Expenditures to Apr. 15, 1919.	Estimated to complete.
					To be repaid.	Interest rate.			
					Per cent.	*Per cent.*			
North Atlantic	Lewiston, Augusta & Waterville Street Railway, Bath, Me.	Texas Steamship Co. (Kelley-Spear Co.), Bath, Me.	Transmission line and feeder north of Brunswick and work at Bath car barn.	$57,500.00	100	5			
			Transmission line and feeder east of Brunswick and track turnout.	24,000.00	75	5			
			6 passenger cars and snow plow.	99,000.00	[1] 75	5			
			Total	170,500.00			$50,817.24	$136,216.25	
Do	National Engineering Corporation, Boston, Mass. Harry A. Wood, Portsmouth, N. H.	The Atlantic Corporation, Portsmouth, N. H.	Wooden automobile roadway and excavation work.	3,343.00			2,166.00	3,080.19	$242.81
Do	Receiver, Bay State Street Railway, Boston, Mass.	Bethlehem Shipbuilding Corporation (Fore River Plant) Quincy, Mass.	Rehabilitation 26 cars and power facilities.	49,567.57	75	5			
			Rehabilitation of 26 cars.	17,567.57	100	5			
			Total	67,135.14			43,631.75	64,947.37	2,187.77
Do	Metropolitan Park Commission, Boston, Mass.	do	Widening Neponset River bridge.	42,000	[2]	0	22,023.75	53,462.74	
Do	Richmond Light & Railroad Co., New Brighton, Staten Island, N. Y.	Standard Shipbuilding Co.	10,000 kw. turbo-generator with accessories.	325,988	82½	5			
		Staten Island Shipbuilding Co.	1,000 kw. converter with accessories.	20,472	75	5			
	Staten Island Midland Co., Staten Island, N. Y.	Downey Shipbuilding Corporation. Johnson Shipyards Corporation.	20 passenger cars	260,000	[1] 75	5			
			Total	606,460			36,787.50	358,060.00	248,400.00
Do	Public Service Railway, Newark, N. J.	Federal Shipbuilding Co.	Track construction exclusive of poles and overhead.	10,591	[3]	5			
Do	Federal Shipbuilding Co		Additional feeder	28,995	75	5			
			Total	39,586			18,145.75	26,227.77	13,308.23

Delaware River	Southern Pennsylvania Traction Co., Philadelphia, Pa.	Sun Shipbuilding Co., Chester, Pa.	22 passenger cars	319,000	[4] 75	[5] 5	319,000.00	319,634.60	
Do	do	Chester Shipbuilding Co.	Reconstruction of 1½ miles of track.	86,412	100	5	85,167.90	87,734.24	
Do	MacArthur Bros	Westinghouse Electric, Essington, Pa. Hog Island.	Construction of 6 miles of track on Chester Pike between Darby and Chester with necessary overhead electric line and 10-foot strip of roadway.	733,000		[6]	863,228.39	885,887.43	
Do	Delaware County Electric Co.	Remington Arms, Eddystone, Pa. Baldwin Locomotive Works, Eddystone, Pa.	Substation facilities for additional railway service on Chester Pike.	80,000		[7]		43,365.96	36,634.04
Do	Southern Pennsylvania Traction Co.	Eddystone Ammunition Co., Eddystone, Pa.	Contract covering lease and operation of track, etc., built by Emergency Fleet Corporation by Southern Pennsylvania Traction Co.						
			Total	1,218,412			1,267,396.29	1,336,622.23	36,634.04
Do	Public Service Railway, Newark, N. J.	New York Shipbuilding Corporation, Camden, N. J.	Connecting curves, storage tracks, building construction, substation equipment, transmission line equipment, Camden power house equipment, direct current feeder, 33 passenger cars, and loops for New York Shipbuilding Co. and Pusey & Jones Co.	1,240,780.00	[8]	5	504,020.47	718,779.88	522,001.12
	do	do							

[1] Appraisal minimum.
[2] Salvage.
[3] Salable value.
[4] Minimum.
[5] Appraisal.
[6] Track and roadway constructed by Emergency Fleet Corporation without franchises as a war emergency measure. Terms of repayment not yet agreed upon with Southern Pennsylvania Traction Co.
[7] Terms of repayment to be fixed in agreement covering purchase of track.
[8] Loop for New York Shipbuilding Corporation to be excluded from appraisal. Investment in loop for Pusey & Jones shipyard estimated at $31,258 is to be assumed by Pusey & Jones Co. upon the basis of an appraisal with a minimum of 75 per cent of cost.

NOTE.—It is provided in all contracts that amounts repayable to Emergency Fleet Corporation shall be repaid in 5 equal annual installments beginning one year after official termination of war.

CONTRACTS ENTERED INTO BY EMERGENCY FLEET CORPORATION FOR PROVIDING STREET RAILWAY FACILITIES FOR TRANSPORTATION OF SHIPYARD EMPLOYEES—Continued.

District.	Contract drawn with—	Shipyard and war industries benefited.	Description of work.	Estimated amount of contract.	Financial terms.		Expenditures to Dec. 31, 1918.	Expenditures to Apr. 15, 1919.	Estimated to complete.
					To be repaid.	Interest rate.			
					Per cent.	*Per cent.*			
Delaware river		Pusey & Jones, Gloucester, N. J.	Track extension to the housing development of Yorkship Village.	$215,947.50	[1] 141,547 [2] 50,000				
Total					191,547		$33,669.60	$169,551.98	$46,395.42
Middle Atlantic	United Railways & Electric Co. of Baltimore, Baltimore, Md.	Henry Smith & Sons Co.	Purchase of 50 passenger cars.	829,638.50	[3] 75	5			
		Bethlehem Shipbuilding Corporation (Ltd.)	Construction of track	145,472.25					
		Baltimore Dry Dock & Shipbuilding Co., Baltimore, Md.	Total	975,110.75				664,617.68	210,493.07
Do	Newport News & Hampton Ry. Gas & Electric Co., Hampton, Va.	Newport News Dry Dock & Shipbuilding Co., Newport News, Va.	Construction of 3.8 miles of track and 4 cars.	225,000.00	[4]	5			
			Purchase of 6 additional cars.	75,000.00	[3]	5			
			Total	300,000.00			279,063.01	302,777.84	10,000.00
Do	Tidewater Power Co., Wilmington, N. C.	Liberty Shipbuilding Co.	Installation of track and overhead.	140,000.00	[3] 75	5			
		Carolina Shipbuilding Corporation, Wilmington, N. C.	Additional power facilities.	200,000.00	[3] 75	5			
			Total	340,000.00			22,773.98	147,835.92	192,164.08
Southern	Chatham County, Savannah, Russell estate, Savannah, Ga.	Terry Shipbuilding Corporation, Savannah, Ga.	Purchase of rights-of-way.	3,853.45	[6]				
			....do	563.01					
			Total	4,416.46			4,416.46	4,416.46	
Do	Mobile Light & Rwy. Co., Mobile, Ala. (canceled)	Mobile Shipbuilding Co.	Construction of track	75,000.00	75	5		9,000.00	[7]
		Doullut & Williams (Inc.), Mobile, Ala.	Purchase of 9 cars		[3] 75	5			
Gulf	Chas. Swank et al., Beaumont, Tex.	Lone Star Shipbuilding Corporation, Beaumont, Tex.	Purchase of ferry	3,250.00	[8]		3,250.00	3,250.00	

Great Lakes	Duluth Street Railway, Duluth, Minn.	MacDougall Duluth Co., Duluth. Superior Shipbuilding Co., Superior, Wis. Globe Shipbuilding Co., Superior, Wis.	Purchase of 6 passenger cars and 1 snowplow.	56,783.57	[3] 75	5			
			Additional power facilities.	24,275.00	[3] 75	5			
			Total	81,058.57			10,680.16	58,147.46	22,911.11
Do	New York Central R. R. (canceled).	Great Lakes Engine Works, Ashtabula, Ohio.	Footbridge over river	6,000.00			[8]	185.00	[7]
Northern Pacific	City of Tacoma, Tacoma, Wash.	Todd Dry Dock & Construction Co.	Purchase of 10 second-hand cars.	74,100.00	100				
			Construction of track	145,600.00	[3] 75				
			Prepayment loading station.	12,700.00	100	5			
			Total	232,400.00			82,408.24	152,652.46	79,747.54
Do	Portland Railway, Light & Power Co., Portland, Oreg.	Columbia River Shipbuilding Corporation. Albina Engine & Machine Works (Inc.). Northwest Steel Co., Portland, Oreg. Standifer Construction Co.	Purchase of 25 new cars	150,000.00	[4] 75	5			
			Construction of 3 loops	21,000.00	75				
			Total				145,187.50	150,329.80	
Southern Pacific	San Francisco-Oakland Terminal Co., Oakland, Calif.	Moore Shipbuilding Co. Hanlon Dry Dock & Shipbuilding Co. Union Industrial Works. Bethlehem Shipbuilding Corporation.	Construction of track	9,675.00	100	5	9,675.00	9,675.00	
			Purchase of 30 double-truck cars.	465,600.00	[4] 75			6,817.49	Canceled.

[1] Contract provides that Public Service Railway shall pay 75 per cent of cost of work less a deduction of $12,500 representing part of cost of bridge over Newton Creek and a deduction estimated at $14,717 representing cost of special track work connecting with loop, at yard of New York Shipbuilding Corporation. Net amount to be absorbed by Emergency Fleet Corporation estimated at $24,400.

[2] By New York Shipbuilding Corporation.

[3] Appraisal minimum.

[4] Appraisal not less than $175,000.

[5] Appraisal.

[6] Emergency Fleet Corporation retains title to right of way.

[7] Canceled.

[8] Emergency Fleet Corporation retains title. Net earnings of ferry applies against purchase price.

NOTE.—It is provided in all contracts that amounts repayable to Emergency Fleet Corporation shall be repaid in 5 equal annual installments beginning one year after official termination of war.

CONTRACTS ENTERED INTO BY EMERGENCY FLEET CORPORATION FOR PROVIDING STREET RAILWAY FACILITIES FOR TRANSPORTATION OF SHIPYARD EMPLOYEES—Continued.

District.	Contract drawn with—	Shipyard and war industries benefited.	Description of work.	Estimated amount of contract.	Financial terms.		Expenditures to Dec. 31, 1918.	Expenditures to Apr. 15, 1919.	Estimated to complete.
					To be repaid.	Interest rate.			
					Per cent.	*Per cent.*			
Southern Pacific	San Diego Electric Railway.	Pacific Marine & Construction Co.	Construction of track	$57,000.00	100		$33,261.27	$45,116.12	
		Total		6,324,674.42			2,569,373.97	4,421,769.64	$1,384,485.19
		15 per cent for contingencies.		948,701.16					207,672.78
		Total		7,273,375.58					1,592,157.97

CONTRACTS AUTHORIZED PRIOR TO ORGANIZATION OF PASSENGER TRANSPORTATION DEPARTMENT—NEGOTIATED AND SUPERVISED BY ADMIRAL BOWLES (EXPENDITURES TO MAR 31, 1919).

Delaware River	Philadelphia Rapid Transit Co.	Hog Island	Purchase 115 cars, track and power facilities.	$2,099,446.00	(1)	5	$1,773,148.87	$1,851,742.41	$300,000.00
Do	Philadelphia Railways Co.	do	Cars, power, and track facilities.	826,006.70	(1)	5	1,011,953.25	1,022,248.47	
Newark Bay	Public Service Railway Co.	Submarine Boat Corporation.	Purchase 18 cars and extend track.	837,345.00	(2)		632,054.76	684,250.63	30,000.00
		Total		3,762,797.70			3,417,156.88	3,558,241.51	330,000.00
		15 per cent for contingencies.		564,419.65					
		Total		4,327,217.35					
		Total all contracts.		11,600,592.93			5,986,530.85	7,980,011.15	1,922,157.97

[1] Appraisal.

[2] 50 per cent less depreciation.

NOTE.—It is provided in all contracts that amounts repayable to Emergency Fleet Corporation shall be repaid in 5 equal instalments beginning one year after official termination of war.

Pay roll statistics.

MAR. 1 TO MAR. 31, 1919.

Unit.	Schedule Mar. 1, 1919.		Separations and transfers out.		New appointments and transfers to—		Salary increases, amount.	Schedule Mar. 31, 1919.	
	No.	Amount.	No.	Amount.	No.	Amount.		No.	Amount.
Office and general, Passenger Transportation and Housing	2	$16,500	1	$1,500				1	$15,000
Passenger Transportation:									
Philadelphia	15	42,060	3	7,600	1	$2,400	$1,060	13	37,920
Field	3	9,360						3	9,360
Housing, office and general	12	29,940	3	5,880			600	9	24,660
Production branch	3	10,420	2	6,520				1	3,900
Construction unit:									
Philadelphia	26	82,320	6	25,380	1	5,200	2,600	21	64,740
Field	63	160,540	12	36,540	1	4,200	660	52	128,860
Engineering unit:									
Philadelphia	11	34,860					1,200	11	36,060
Field	1	3,600						1	3,600
Architectural unit	20	57,800	5	15,080			660	15	43,380
Property branch:									
Philadelphia	7	23,120	2	6,300	2	7,500	120	7	24,440
Field	2	3,000	1	1,200				1	1,800
Total	165	473,520	35	106,000	5	19,300	6,900	135	393,720

NOV. 15, 1918, TO MAR. 1, 1919.

Department.	Nov. 15, 1918.		Dec. 1, 1918.		Jan. 1, 1919.		Feb. 1, 1919.		Mar. 1, 1919.	
	Number.	Annual salary.	Number.	Annual salary.	Number.	Annual salary.	Number.	Annual salary.	Number.	Annual salary.
Passenger transportation	34	$99,560	30	$91,880	26	$70,180	21	$59,400	18	$51,420
Housing	278	763,740	253	711,660	203	558,860	175	491,040	147	422,100
Total	312	863,300	283	803,540	229	629,040	196	550,440	165	473,520

Schedule as of Apr. 1, 1919.

Unit.	Number.	Annual salary.
Office and general, Passenger Transportation and Housing	1	$15,000
Passenger transportation:		
Philadelphia	13	37,920
Field	3	9,360
Office and general, housing	9	24,660
Production branch	1	3,900
Construction unit:		
Philadelphia	21	64,740
Field	[1] 52	128,860
Engineering unit:		
Philadelphia	11	36,060
Field	1	3,600
Architectural unit	15	43,380
Property branch:		
Philadelphia	7	24,440
Field	1	1,800
Total	135	393,720

[1] On Dec. 1, 1918 there were 93 employees in field for construction unit, with annual salaries aggregating $223,940.

Net reductions in personnel as of Apr. 1, 1919.

Period.	Employees.	Per cent.	Annual salary.	Per cent.
Nov. 16 to Nov. 30, 1918	29	9.29	$59,760	6.92
Dec. 1 to Dec. 31, 1918	54	19.08	174,500	21.72
Jan. 1 to Jan. 31, 1919	33	14.41	78,600	12.50
Feb. 1 to Feb. 28, 1919	31	15.82	76,920	13.97
Mar. 1 to Mar. 31, 1919	30	18.18	79,800	16.85
Total Nov. 16, 1918, to Mar. 31, 1919	177	56.73	469,580	54.39
Pay roll Nov. 16, 1918	312	.....	863,300	.....
Pay roll Mar. 31, 1919	135	.....	393,720	.....
Total net reduction	177	.....	469,580	.....